MEDICAL

COMMENTARIES.

EXHIBITING

A conciſe VIEW of the lateſt and moſt important DISCOVERIES in MEDICINE and MEDICAL PHILOSOPHY.

COLLECTED AND PUBLISHED

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Neglecta reducit, ſparſa colligit, utilia ſelegit, neceſſaria oſtendit, ſic utile. BAGLIVI.

PART III.

For the Year 1780.

LONDON:
PRINTED FOR CHARLES DILLY;
IN THE POULTRY.

MEDICAL

COMMENTARIES.

SECT. I.

An Account of New Books.

I.

Reglements concernant la Propreté des Vaiſſeaux, & la Conſervation des Equipages. Vid. Journal de Medecine, Juillet, 1780. 12*mo*. Paris.

THE Regulations now before us, which are dated at Verſailles the 15th of January 1780, and ſigned by M. de Sartine, have probably been, in a good meaſure, the conſequence of the very great ſickneſs which is ſaid to have prevailed in the French fleet, during the Summer 1779. On what authority they have been inſerted by the compilers of the Journal de Medecine, we do not know; nor do they mention from whence they have derived them. They only introduce them by obſerving, that, from the importance of the ſubject, they are perſuaded the greateſt part of their readers will receive peculiar ſatisfaction from their having inſerted them. They conſider theſe regulations as a proof of the attentive care of the Miniſter, for preſerving that claſs of men, whom the philoſophy of our days preſents as an object of political calculation. How far regulations better fitted than theſe, for preſerving the health of ſeamen may not be inſtituted, we cannot take upon us to ſay. Still, however, it is not to be doubted, that in ſome particulars they may ſuggeſt uſeful practices. With this view, then, we ſhall preſent them to our readers; and, as they do not extend through many pages, in place of an analyſis, we ſhall give a tranſlation of them at full length from the Journal de Medecine.

1. All the partitions betwixt decks, and in the holds of the ſhips and other veſſels of the navy,

ſhall be waſhed over two or three times with lime-water, for the deſtruction of inſects and putrid miaſmata which may have been lodged there on former occaſions. The inſide of the veſſel muſt, after this, be well aired and dried. The balaſt of ſtones ſhall not be taken on board till it has firſt been waſhed with freſh water.

2. The ſhip's company ſhall conſiſt, as much as poſſible, of ſtout and ſound men; and none are to be taken who have been much ſubjected to ſcurvy, ſyphilis, hernia, pulmonary affections, or any other diſeaſe where there is not hopes of a ſpeedy recovery, or where there is reaſon to be apprehenſive of a relapſe after being on board. On this account every one of the ſailors and ſoldiers ſhall be examined by the phyſicians and ſurgeons majors, who ſhall be attentive, at the ſame time, that no feigned diſeaſe ſhall furniſh a pretext for eſcaping ſervice. Thoſe mariners and ſoldiers who are taken from an hoſpital, ſhall paſs eight, or at leaſt four days, in ſome well aired place, before they be embarked; and all their cloaths muſt be well waſhed and perfumed.

3. The mariners and ſoldiers ſhall not be embarked, without being firſt provided with proper cloathing for defending them againſt cold and

moiſture; and every man of the ſhip's company ſhall be furniſhed with an hammoc.

4. The crew of every ſhip or other veſſel ſhall be divided into different ſquads, according to the captain's orders. Different officers ſhall have each the particular charge of one of theſe ſquads. He ſhall watch over the preſervation of the health of thoſe who compoſe it, and ſhall give a daily report to the captain of whatever concerns the police of his ſquad.

5. Every man of the ſhip's company ſhall be ſhaved at leaſt once a week, and even oftner if it be thought neceſſary; they ſhall comb themſelves frequently for deſtroying vermin; and ſhall change their ſhirts every Sunday and Thurſday.

6. The ſea-officers, ſailors, ſoldiers, boys, *&c.* who have dirty legs or feet, ſhall be obliged to waſh with warm water in winter, and in ſummer to uſe twice a week the baths eſtabliſhed on the ſtarboard and larboard bows.

7. The officer charged with each ſquad ſhall be obliged to inſpect the cleanneſs of the men and their cloaths.

8. In fine weather, the cloaths ſhall be put in the nets placed outwardly along the ſide of

the ſhip; and in wet weather they ſhall be put in the nets placed between decks, at every interſtice between the guns againſt the ſide.

9. The dirty linen and other cloaths ſhall be put into buckets to ſteep, or into the drag, and ſhall not be put into bags till after being waſhed and well dried. The hammocs ſhall be put into the drag every month; and, when the ſhip comes to port, they ſhall be waſhed on ſhore.

10. The ſurgeon-major on board ſhall frequently examine the mouths of the crew, that their gums may not be affected with any diſeaſe which it is poſſible to prevent.

11. The medicine-cheſts ſhall be furniſhed with whatever may be reckoned neceſſary for every poſſible caſe, that the ſurgeons may be enabled to treat the ſick with ſucceſs. Theſe cheſts ſhall particularly contain the moſt celebrated antiſcorbutics.

12. The officers commanding ſhips and other veſſels, ſhall appoint thoſe of the crew who are leaſt fit for the ſea-ſervice, to take care of the ſick; and there ſhall be allowed ſuitable rewards to theſe attendants.

13. Theſe attendants ſhall make the beds of the ſick both morning and evening, and ſhall

take the greateſt care to leave none of the urine or fœces of the ſick in the pails or buckets, either by night or day; but muſt throw it immediately into the ſea.

14. The ſurgeons majors ſhall be careful and vigilant reſpecting the ſick; they ſhall ſee that every thing neceſſary be performed by their aſſiſtants and mates, and they ſhall take care that no ſick perſon remains long in bed, when exerciſe and free air can contribute to diſſipate that kind of indolence, which conſtitutes the firſt taint of a ſcorbutic affection.

15. The ſurgeon-major of every ſhip ſhall ſend, with the ſick who are tranſported to the hoſpitals in the rear of the fleet, or to thoſe eſtabliſhed on ſhore, an exact account of the ſtate of each patient, and of the remedies which have been adminiſtred to them.

16. There ſhall be embarked a proper quantity of rice, malt, and conſerve of ſorrel, for the different ſoups and panadoes, which in general agree better with the ſick at ſea than animal food. There ſhall be embarked, for the time of convaleſcence only, a certain quantity of fowls; and likewiſe of carrots, of onions, and of ground

muſtard, the uſe of which is particularly recommended to the mariners.

17. There ſhall be embarked alſo, as a part of the ſtores for the ſick, independently of what enters the medicine-cheſt, vinegar, ſpirits, ſugar, rob of lemons, as well for the compoſition of the drink of Colbert, as of the antiſcorbutic punch. The ſurgeon-major, after having informed the officer charged with the diſtribution of them, ſhall be authoriſed to demand theſe articles from the commiſſary, and ſhall have the regulation of the quantity which he reckons it neceſſary to employ, as well as every thing elſe which has any immediate connection with preſerving or reſtoring the health of the crew.

18. There ſhall be given to the ſurgeon-major on board, an account of the ſtock of theſe articles, that he may regulate the conſumption which may be made in proportion to the quantity, and to the length of the voyage; and he ſhall keep an account of the conſumption in the ſame regiſter in which he keeps an account of the diſeaſes which prevail on board, and of the remedies which are employed.

19. The ſurgeons mates ſhall aſſiſt at the diſtribution of theſe refreſhments, made by the

commiſſary of vivers, that they may be ſatisfied of its being done agreeably to the orders of the ſurgeon-major.

20. The officer charged with the diſtribution of proviſions, and the ſurgeon-major, ſhall preſerve from the allowance of the ſick, the quantity of bread and wine which may remain, that the bread may be employed in the compoſition of cataplaſms, and the wine for fomentations and other medicinal uſes, without its being neceſſary to make a particular demand for theſe purpoſes.

21. The good quality of food and drink, being one of the moſt efficacious means for preſerving the health of the crew, the commanders and officers charged with the diſtribution of proviſions on board his Majeſty's veſſels, muſt watch with the greateſt care, that the vivers, the wine and the water, be preſerved in ſuch a manner as not to ſuffer the leaſt poſſible prejudice during the longeſt voyages.

22. To render the ſalted proviſions ſufficiently digeſtible, on being taken out of the buckets in which they ought to be kept for the ſpace of a night, in order to freſhen them, they muſt be put into a boiler ſilled with ſea-water,

where they may be ſtill farther freſhened by being boiled for about three hours.

23. The wine which is left after the diſtribution to the crew, muſt never be allowed to remain in the buckets, becauſe by that means it will become ſour during the night, and will ſpoil that poured upon it for diſtribution the day following.

24. After the water-caſks have been carefully cleaned and filled, a piece of quick-lime muſt be put into each. Half a pound muſt be added for half caſks, and a pound for whole caſks; this proceſs being found to preſerve the water from a great part of the putridity which it contracts when it is not employed.

25. To correct that putridity which the water will contract more or leſs quickly, notwithſtanding theſe precautions to prevent it, two pints of good vinegar muſt be added to every hogſhead of water, when it is put into buckets for the uſe of the crew. A ſufficient quantity of vinegar muſt be taken on board to anſwer this purpoſe.

26. Water muſt never be diſtributed for drink till after it has been three times filtrated through cloths.

27. No more bullocks, ſheep or poultry, ſhall be taken on board than are abſolutely neceſſary

as proviſion for the officers and refreſhment for the crew, to diminiſh as much as poſſible confuſion and naſtineſs on board. His Majeſty makes the commanders of veſſels perſonally anſwerable for the execution of this article.

28. The moſt ſcrupulous attention muſt be paid not to keep in the hold, or any other part of the veſſel, any dung of animals, or other matter quickly ſuſceptible of putrefaction.

29. No ſea-water muſt be left in the common buckets from one day to another, as by its ſpeedy corruption it occaſions, particularly in ſummer, a very diſagreeable and infectious ſmell.

30. All his Majeſty's ſhips muſt be provided with ventilators, which muſt be uſed as frequently as poſſible.

31. Small port-holes muſt be provided for renewing the air betwixt decks in bad weather. If ſmall ſcuttles can be opened in the ſide at every cannon-port, this muſt be put in practice; if this cannot be done without hazarding the hull of the veſſel, theſe muſt be ſupplied by ſmall ports made in the large ones.

There ſhall be erected between each ſpace for working the guns, vents of plate-iron placed againſt the ſides of the veſſel, which going from the firſt battery, ſhall riſe to the height of the *chandeliers de baſtingage.*

32. When it becomes neceſſary that a quantity of water ſhould be thrown into the bottom of the hold to waſh it, the maſter's mate of the hold ſhall give intimation of this to the lieutenant on duty. The water thrown into the hold ſhall not be pumped out till after it has remained there for eight hours.

33. The uſe of the air-ſails being one of the moſt proper means for driving the infected air from the bottom of the veſſel, muſt be frequently employed. But then care muſt be taken that the whole crew be ordered upon deck till the foul air of the hold be evacuated from betwixt decks through the ports; and the births of the ſick muſt be carefully guarded againſt this air by curtains. At the ſame time, all the gun-ports to leeward muſt be opened.

34. The ſame precautions muſt be taken in working the pumps; and in new veſſels, which make ſo little water, that it is apt to become putrid, ſome tons of water muſt be thrown frequently into the pump-well, to waſh it, and afford an opportunity for working the pumps.

35. Every day, early in the morning, the quarter-deck, poop, paſſages, *&c.* ſhall be waſhed with ſea-water, mopped and ſanded.

36. The hammocs being made up, the different births ſhall be cleaned by thoſe who occupy them; the decks ſhall be ſcrubbed, ſweeped, and ſanded.

37. The carriages, cannon and other utenſils of the artillery, ſhall alſo be cleaned. The principal gunner ſhall appoint one of his mates to attend daily to the careful execution of this duty.

38. When all the decks are properly cleaned, the maſter's mate, and gunner's mate, ſhall report this to the maſter and chief gunner, that they may ſee that no place be neglected; and they again ſhall report to the lieutenant on duty, that he may go himſelf along with them to make an inſpection.

39. Every morning alſo, the hold, the places betwixt decks, and the falſe decks, ſhall be perfumed. The births of the ſick ſhall be perfumed twice a day, and even oftner, particularly when any of the ſick people get purgatives. The fourth officer on duty at the time of perfuming, ſhall either ſee himſelf, or give orders to ſome

inferior officer to ſee, that this operation be performed with the attention which is requiſite, and he ſhall report it to the captain.

40. After meals, the different parts of the deck ſhall be ſwept by thoſe who occupy them; and there ſhall be allowed to every birth, a ſmall mop and bruſh, for keeping each birth clean, and every day one of the men by turns ſhall take charge of this.

41. The officer of the guard ſhall order his ſecond to walk a round through the ſhip, at ten in the morning, at four in the afternoon, and at ten at night: The maſter, the gunner, and the commander of marines, ſhall alſo make three rounds at different hours, and ſhall make a report to the lieutenant on duty.

42. His Majeſty recommends it to all the commanders of his ſhips and veſſels, to beſtow the greateſt vigilance on the execution of the preſent regulations; to encourage exerciſe, activity and cheerfulneſs among the crews entruſted to their care; and in fine, to employ every meaſure which can contribute to the health and preſervation of their crews.

Given at Verſailles, the 15*th of January* 1780,

(Signed,) DE SARTINE.

II.

II.

Diſſertatio Inauguralis Anatomico-obſtetricia de Sectione Synchondroſeos Oſſium Pubis. Auctore Emanuel Bentely. *4to.* Argentorati.

THE diviſion of the ſymphyſis pubis, in caſes of difficult labour from diſtortions of the pelvis, has of late become not only a ſubject of ſpeculation but of practice. Our Author, in the work before us, enters minutely into the merits of the queſtion, as to the propriety of ſubſtituting this operation for the Cæſarean ſection.

In the courſe of a very accurate anatomical deſcription of the bones which compoſe the pelvis, Dr Bentely renders it evident, that at the junction of the oſſa pubis, theſe two bones are each of them covered with a diſtinct cartilage, without any intervening elaſtic ſubſtance whatever. Almoſt every anatomiſt has hitherto aſſerted, that the ſame kind of yielding, ligamentous ſubſtance, is detected at the junction of theſe bones, as is found between the vertebræ of the ſpine; our Author however proves this to be merely a hypotheſis, the cartilages of the oſſa pubis being always found in contact with one another without the intervention of any other ſubſtance.

The different circumſtances which ought to render the Cæſarean operation neceſſary, may be reduced, our Author remarks, to the following:

1. When a woman, come to her full period, is found to have ſuch a narrow pelvis, that the hand of the operator cannot be introduced to the uterus; or, if introduced, that the fœtus cannot be extracted.

2. When the fœtus has been extra-uterine from the commencement of pregnancy; or has been puſhed from the cavity of the uterus, in conſequence of a rupture in that viſcus.

3. When large ſcirrhous tumours occupy the mouth of the uterus, ſo as to prevent either the paſſage of the fœtus, or the introduction of the operator's hand. Inſtances of which are to be met with in Hildanus.

4. When in caſes of uterine herniæ, the uterus cannot be replaced in conſequence of adheſions between it and the neighbouring parts.

Of all theſe cauſes, however, that may give riſe to the Cæſarean operation, the moſt frequent, our Author remarks, is that which depends upon a wrong conformation of the bones of the pelvis; and it is in this caſe only, he thinks, that any doubt can ever occur as to the propriety of having recourſe to the diviſion of the ſymphyſis pubis, in preference to the Cæſarean operation. In all the other cauſes of difficult labour, the Cæſarean ſection muſt ſtill be the only reſource, and even in this caſe of the malady, it is our Author's opinion, that the diviſion propoſed, of the ſymphyſis pubis, will ſeldom, if ever, prove an adequate remedy.

Dr Bentely does not merely aſſert this as a matter of opinion; his reaſons for it are propoſed with a great deal of candour, and ſupported by a number of experiments.

In caſes of difficult labour from a mal-conformation of the bones of the pelvis, the obſtruction which occurs to the paſſage of the head of the fœtus, depends almoſt always, our Author remarks, upon a narrowneſs or ſtraitneſs in the ſhort diameter of the pelvis, and ſeldom upon any deficiency in its longer diameter. This being the fact, he obſerves, that very little advantage is to be expected in ſuch caſes from a diviſion of the bones of the pubis; for, although by a diſtraction of theſe bones, the long diameter of the pelvis may be ſomewhat extended, yet its ſhort diameter, or, in other words, the diſtance of the oſſa pubis from the os ſacrum, cannot be much increaſed by the former of theſe being ſomewhat ſeparated from one another.

Various experiments are related, which were inſtituted with the ſole intention of determining the degree of advantage to be obtained by this operation. The ſubjects conſiſted of women, who had died, either in different periods of pregnancy, or ſoon after delivery. But in all of them, the increaſe given to the ſhort diameter of the pelvis was exceedingly trifling; in no caſe being in any degree equal to the want which ought to render ſuch an operation neceſſary. Even when a very conſiderable degree of force was applied, and when of courſe the divided oſſa pubis were a good deal ſeparated from one another, yet ſtill the diameter of the pelvis was increaſed to a very ſmall degree only, where in ſuch caſes of difficult labour its enlargement in general is moſt needed.

After an accurate account of various experiments of this nature upon the dead body, Dr Bentely favours us with the hiſtory of two caſes of difficult labour, in which the diviſion of the ſymphyſis pubis was had recourſe to upon the living body; and the events of both theſe tend greatly to corroborate the Doctor's opinion with reſpect to the inutility of this operation in every caſe of difficult labour.

The firſt of theſe was performed by Profeſſor Sibold, a celebrated anatomiſt, in the month of February 1778, ſome time after Dr Sigault of Paris had communicated to the public the ſucceſs of his operation in a ſimilar inſtance.

After dividing the bones at their ſymphyſis, with the greateſt attention, the profeſſor was ſurpriſed to find, that a very great degree of ſtrength was neceſſary to produce any ſeparation between them; and even all the force that could be applied with any degree of ſafety, could not effect an opening of much more than a finger's breadth.

The advantage, therefore, that was gained here, proved exceedingly ſmall; a dead child, however, was at laſt extracted; but much more force was found neceſſary, than durſt have been ventured upon had the child been living.

A violent inflammatory fever ſucceeded this operation. But by different blood-lettings, and other remedies, it was removed. The patient did not complain of ſo much pain in the back and loins as might have been expected from the force uſed in the operation for diſtending the bones. For ſeveral weeks the urine paſſed by the wound: On the ſeventh week, however, ſhe was able to walk abroad; but at the end of the firſt year, the wound ſtill remained open, owing to the tedious exfoliation which had occurred of different portions of the oſſa pubis.

The other operation was done in the month of May 1778, by Dr Guerard, profeſſor of Anatomy at Duſſeldorf. This woman was 37 years of age; this was her firſt pregnancy, and her pelvis was much diſtorted. Every effort for delivering her having proved ineffectual, owing entirely to the narrowneſs of the pelvis, it was at laſt agreed to have recourſe either to the Cæſarean operation, or to the diviſion of the ſymphyſis pubis.

This laſt operation being determined on, it was immediately put in practice with every care and attention neceſſary for inſuring ſucceſs. But although in this caſe, the bones of the pubis were made to ſeparate fully an inch and a half from one another, yet the advantage thereby obtained,

tained, in increaſing the diameter of the pelvis was ſo very ſmall, that it was with the utmoſt difficulty the delivery could be completed, even by tearing the child away piece-meal by the crotchet. At laſt, however, the fœtus was all got away; but the woman was ſo very much reduced and ſpent by the operation, that ſhe died on the 10th day.

From the reſult of theſe two caſes therefore, as well as from the experiments already mentioned, our Author is of opinion, that this operation will not be found to ſucceed; and that whether the difficulty of labour may proceed from a malconformation in the higher or lower opening of the pelvis.

The ſucceſs which attended Dr Sigault's operation, proves nothing, our Author thinks, againſt this doctrine; for in that woman, it is now proved, he obſerves, by Mr Piet's publication on this ſubject, that although the diameter of the pelvis was narrower than it ought to have been, yet that it was at leaſt three inches at its narroweſt point. This our Author ſeems to conſider as an opening fully ſufficient for preventing in every caſe the neceſſity of having recourſe to this operation.

Mr Piet, we are informed, was very well able to judge of the fact, from his having delivered this woman on a former occaſion; the child indeed was dead, but of a pretty large ſize; and finding the pelvis narrower than it ought to be, he was very accurate in attending to its diameter, which he aſſerts to have been at leaſt three inches. Dr Bentely, therefore, does not ſuppoſe that this caſe can in any degree invalidate his opinion.

III.

Henrich Matthias Marcard der Arzneywiſſenſchaft Doctors, zu Hannover, Mediciniſche Verſuche. Zweyter Theil. 8*vo*. Leipſig.

i. e.

Medical Eſſays by Henry Matthias Marcard, *M. D. of Hanover*. Part II.

OF the firſt volume of this work, which contains Dr Marcard's theory of Jaundice, we have already given an account in a former number. In the volume now before us, which contains practical treatiſes and obſervations on different ſubjects, Dr Marcard begins with giving an account of a very ſingular diſeaſe which appeared at Stade in the winter 1771 and 1772, which he names a *ſpaſmodic diſorder*, reſembling the kribelkrankheit of the Germans, literally the *cripple diſeaſe*, the convulſio raphania of Sauvages, the raphania of Linnæus, Vogel and Cullen. According to the account our Author gives of it, this is an endemic ſpaſmodical diſeaſe peculiar to Germany. The eſſentials of this diſeaſe are, frequent painful ſpaſms, "the motus "ſpaſmodici vagi of the ancient writers," attacking commonly at firſt the muſcular parts, and particularly the limbs. It does not diſappear by any diſtinct criſis, but for the moſt part by a kind of metaſtaſis. When it happens that the termination of the diſeaſe is unfavourable, it attacks the noble parts, and, by its effects upon them, deſtroys the life or the health. It is diſtinguiſhed both by Sauvages and Vogel from the ergot of the French, though neither of them have pointed out the grounds of this diſtinction. But, according to the accounts our Author has received of it, the ergot is a pain in one limb, followed with a ſtupor, a change in the colour of the ſkin, and complete mortification. This he obſerves is a termination which never takes place in the raphania. Although this diſeaſe, which our Author here deſcribes as having appeared at Stade, bears the ſtrongeſt reſemblance to the raphania, yet it differed very conſiderably from the accounts given of that which appeared ſome years before at Zell, Holſtein, and Heſſe Darmſtadt. That idiotiſm, that raging hunger, were not to be found to the degree mentioned by other writers on this diſeaſe, and the epileptic ſymptoms appeared only in a very few inſtances. Still, however, notwithſtanding this difference, he is diſpoſed to think, that this diſeaſe was plainly of the nature of the kribelkrankheit. At the ſame time the diſeaſe he deſcribes, he obſerves, was infectious, which almoſt all the writers on the ſubject ſay is not the caſe with the raphania; and he does not imagine that it took its riſe from the uſe of the ſecale cornutum, the cauſe which they uſually aſſign for that affection.

The ſecond treatiſe in this volume is on the vapour bath; and our Author, together with a copper-plate, gives an account of the apparatus for the vapour bath, which he has employed.

He relates alſo many different caſes, in which he has employed it with advantage.

In the third diſſertation, he treats of old wounds and ſores, particularly on the legs. Dr Marcard obſerves, that ſores on the legs, particularly of old people, have long been conſidered as a kind of drain, by which nature diſcharged a certain preternatural morbid fluid, which, had it continued mixed with the circulating juices, would have corrupted the whole maſs, and thereby occaſioned ſome ordinary diſeaſe, and, if they fell upon the nobler parts, would entirely deſtroy the body. Many phyſicians, however, have of late maintained, that the corruption which manifeſtly appears in the fluid diſcharged from old ſores, ariſes not from the conſtitution of the body, but from the ſore itſelf. In conſequence of this principle, they naturally drew the concluſion, that the healing of the ſore entirely removed the complaint. Amongſt the writers who maintain this opinion, Goulard is the moſt confident, who adviſes, without diſtinction, the application of his preparation of lead; though it is true that, at the ſame time, he recommends that recourſe ſhould be had to ſuitable internal means.

Our Author, after extracting a paſſage from

Goulard, adduces a variety of different caſes, to prove that the application of preparations of lead, in the healing of old ſores, is often attended with the moſt unhappy and fatal conſequences. Amongſt many other obſervations which he throws out, he ſays that there is one method which he has met with of healing old ſores, which, in certain circumſtances, he has found attended with good effect; that is, the applying of a bliſter to it. If the diſeaſe ariſes from the conſtitution, no bad effects can, he thinks, follow from it; and, if the ſeat of the complaint be in the ſore itſelf, it may effect a cure by deſtroying the too great ſenſibility of the diſeaſed part, and changing the ſtate of circulation. He ſays, however, that in all the caſes which he has had occaſion to treat, he made no attempt directly to heal an old ſore in the leg, but endeavoured, by purges and other internal means, to meliorate the juices. He adviſes externally the uſe of lime-water, where the ſore has a very bad appearance. He acknowledges, that in ſome of the worſt caſes, a preparation of lead was found of ſervice. With this view, he in general employed a ſolution of ſugar of lead, or a ſalve prepared with white-lead. But in no caſe did he think it adviſeable entirely to heal up the ſore. He reckoned it ſufficient to bring it to a better appearance. And this he thinks may be done without any hazard.

IV.

Firſt Lines of the Practice of Phyſic, for the Uſe of Students in the Univerſity of Edinburgh.—By William Cullen, M. D. and P. Vol. II. 8*vo.* Edinburgh.

IN two former numbers of theſe Commentaries, we gave a very full account of the firſt volume of this work. To this we were induced by a deſire of laying before our readers the fundamental parts of a celebrated ſyſtem of phyſic, which has of late had many followers, and not a few opponents, among thoſe who have had an opportunity of hearing it delivered in lectures. Into the force of the arguments employed in ſupport of this doctrine, or which may be adduced againſt it, we reckon it foreign to our buſineſs in this place to enquire. But we are perſuaded, that when the ſingle circumſtance of the novelty of Dr Cullen's doctrine is conſidered, none of our readers will be diſpleaſed at the attention we have beſtowed upon them.

We now proceed to follow our ingenious Author through his ſecond volume, which was not publiſhed till a conſiderable time after the firſt had appeared.

This volume commences with the third book of the work, which comprehends the *exanthemata*, or *eruptive fevers*, being the third order of pyrexiæ in our Author's noſology.

Eryſipelas is the firſt diſeaſe which Dr Cullen mentions. He ſuppoſes it to depend upon a matter generated within the body, and which is, in conſequence of fever, thrown out upon the ſurface. Although it may be difficult to apply this doctrine to every caſe of eryſipelas, yet the Doctor thinks, that it always correſponds with the eryſipelas which occurs on the face, of which, on this account, he proceeds to treat. After a full enumeration of the ſymptoms, the Author concludes, that eryſipelas of the face is to be cured very much in the ſame manner as phlegmonic inflammations, by blood-letting, by cooling purgatives, and the antiphlogiſtic regimen ; the propriety of this practice has been confirmed by his own experience. It is probable that eryſipelas is ſometimes attended with, or is a ſymptom of putrid fever; and, in ſuch caſes, the evacuations propoſed above may be improper, and the uſe of the Peruvian bark may be neceſſary: But our Author cannot be explicit on this ſubject, as ſuch putrid caſes have not fallen under his obſervation.

The next diſeaſe which is the ſubject of conſideration is the *plague;* and in treating of it, the means of prevention, and the means of cure, are the great objects of the Doctor's enquiry.

Various and uſeful hints are thrown out, for preventing the communication and ſpreading of the contagion which gives riſe to the diſeaſe. The chief of theſe are, to ſhorten the time of quarantine, both of perſons and goods, and thereby leſſen the temptation to break ſuch quarantine. To avoid near communication with infected perſons or goods. Perſons remaining in infected places, and obliged to have a near communication with the ſick, ought to avoid every debilitating cauſe; ſuch as a ſcanty diet, intemperance in drinking, exceſs in venery, fatigue, any conſiderable evacuation, expoſure to too great cold, and the impreſſions of fear. They ought farther to guard againſt infection, by the moderate uſe of wine or of ſpiritous liquors, by moderate exerciſe, by the uſe of the cold bath, if accuſtomed to it, by taking bark and camphire.

In the cure of the plague, the Doctor chiefly refers to what he had delivered on the cure of fever in general.

On the ſubject of the ſmall pox, the Doctor, after enumerating the ſymptoms as they occur in the diſtinct and in the confluent kind, endeavours to aſcertain the cauſes of this difference in the appearance of the diſeaſe. He rejects the idea of its depending upon any peculiarity of the virus which communicates the infection; and concludes, that an inflammatory ſtate of the whole ſyſtem, and more particularly of the ſkin, gives occaſion to a greater number of puſtules, and that the cauſes of this may produce moſt of the other circumſtances of the confluent ſmall pox.

In treating of the cure of the ſmall pox, Dr Cullen enters into a full conſideration of the practice of inoculation, and enumerates the ſeveral meaſures which precede and follow this operation, and which are ſuppoſed to contribute to its ſalutary effects.

1. *Chuſing a proper patient*, and avoiding the concurrence of other diſeaſes. On this ſubject, the Doctor has obſerved, that the preſence of ſcrophula, and even of ſeveral diſeaſes of the ſkin, did not render the ſmall pox more violent; and he is of opinion, that it is the febrile diſeaſes, or aliments ready to induce or aggravate a febrile ſtate, that give the concurrence which is moſt dangerous with the ſmall pox. In every caſe where it is difficult to guard againſt infection, the Doctor is of opinion, that it is ſafer to give the ſmall pox by inoculation, than to leave the perſon to take them by the common infection.

2. *Chuſing a proper time of life for inoculation*; this Dr Cullen, from various conſiderations, fixes to be betwixt the time when the firſt dentition is over and the time of puberty.

3. *A favourable ſeaſon*; which the Doctor points out to be that in which we avoid the extremes of heat and cold.

4. *The preparation of the patient, by enjoining abſtinence from animal food.* The Author is of opinion, that a longer abſtinence is neceſſary than is generally preſcribed.

5. *The preparation of the patient, by mercurial and antimonial courſes;* Dr Cullen doubts the utility of theſe courſes; at leaſt he ſuppoſes them to operate only as purgatives.

6. *Avoiding at the time of inoculation, cold, fear, intemperance, or other cauſes that might aggravate the future diſeaſe.* Dr Cullen thinks that inoculation derives a great and perhaps its principal advantage, by avoiding the concurrences above mentioned.

7. *The opportunity which inoculation gives of a proper choice of matter.* Our Author, however, thinks it very doubtful if any choice is neceſſary, or can give any benefit in determining the ſtate of the diſeaſe.

8. *The introducing by inoculation but a ſmall portion of the contagious matter.* But in the caſe of the ſmall pox, a conſiderable difference in the quantity of the contagion introduced, has not ſhewn any effects in modifying the diſeaſe.

9. *After the inoculation the employing frequent purging.* Purging appears to diminiſh the activity of the ſanguiferous ſyſtem, and the determination to the ſkin; and is, therefore, a practice in inoculation which may give conſiderable advantage.

10. *Both before and after inoculation, the avoiding external heat, and expoſing the perſon to a free and cool air.*

A large and repeated experience has confirmed the ſafety and efficacy of this remedy; and as it may and can be more certainly employed with the practice of inoculation, than it can be in caſes of common infection, it muſt give a ſingular advantage to the former.

11. *Moderating the eruptive fever, by means of purgatives, by cooling and antiſeptic acids, by frequent expoſure to cool, and even to cold air; and by cold drink given freely.*

12. *After the eruption, the continuing the application of cold air, and the uſe of purgatives during the courſe of the diſeaſe till the puſtules are fully ripened.*

Dr Cullen is of opinion, that the application of cold air after the eruption, cannot give any peculiar advantages to inoculation. He alſo thinks that the employment of purgatives has often led to an abuſe. For when the ſtate of the eruption is determined, the number of puſtules ſmall, and the fever has entirely ceaſed, he ſuppoſes the ſafety of the diſeaſe to be aſcertained, farther remedies to be ſuperfluous; and therefore, that in ſuch caſes, the uſe of purgatives is unneceſſary, and may often be hurtful.

Our Author next takes notice of the *chicken-pox*, which he ſeems to introduce, to explain the error into which ſome practitioners have fallen, when they ſuppoſe that the ſame patient has been twice attacked with the *ſmall-pox*.

When treating of the *meaſles*, Dr Cullen obſerves, that from the ſymptoms plainly indicating an inflammatory ſtate of the whole ſyſtem, we are to truſt the cure to the evacuations made by blood-letting, and gentle purging, and to the uſe of bliſters. He highly recommends the exhibition of opium in large doſes when the fever is moderate, and when cough and watchfulneſs form the chief complaints of the patient.

He rejects the analogy betwixt this diſeaſe and the ſmall-pox that has been drawn by ſome phyſicians. He imagines that the catarrhal ſymptoms which always precede this diſeaſe, and the peripneumonic affections which are often the conſequence of it, juſtify him in prohibiting the free expoſure to cold air as commonly practiſed in the ſmall-pox. In proof of this aſſertion, our Author obſerves, that in ſeveral caſes, where, in conſequence of expoſure to cold, the eruption of the meaſles diſappeared, it was again brought out with much relief to the patient by the application of a due degree of heat.

Dr Cullen ſeems to oppoſe the popular opinion of the neceſſity of purging, in order to carry off the *dregs* of the meaſles. It is not, he thinks, drawing off the morbific matter which we need to ſtudy ſo much as the obviating the inflammatory ſtate of the ſyſtem which had been induced by the diſeaſe. With this laſt view, purging may ſtill be a proper remedy; but bleeding, in proportion to the ſymptoms indicating an inflammatory diſpoſition, is ſtill more ſo.

Dr Cullen next proceeds to treat of the ſcarlet fever. From a variety of conſiderations, he is of opinion, that this diſeaſe is ſpecifically different from the cynanche maligna; and he has found from all his experience, that they require a different treatment. This difference chiefly conſiſts in the employment of bleeding, although ſparingly; and in having recourſe to the antiphlogiſtic regimen. In the ſcarlet fever when the febrile ſymptoms run high, when the fauces are ſwelled and pained; and when, at the ſame time, there is no ambiguity in the nature of the affection of the throat, theſe are the moſt effectual remedies.

When treating of the milliary fever, Dr Cullen remarks, that it is acknowledged on all hands, that the red milliary eruption is a ſymptomatic diſeaſe. He alſo concludes from a variety of arguments contrary to the opinion of ſeveral phyſicians, that the white milliary eruption, is alſo ſymptomatic, and does not depend upon a ſpecific contagion. That it occurs in the courſe of other diſeaſes in which a hot regimen is employed; and more eſpecially ſo when debilitating cauſes have preceded ſuch diſeaſes, as the loſs of red blood by accident, profluvium menſium, or where a long continued fluor albus has prevailed.

In the fourth chapter, Dr Cullen proceeds to conſider hæmorrhagies. He introduces the ſubject with ſome general obſervations on hæmorrhagy. He reſtores the diſtinction which noſologiſts have overlooked betwixt *active* and *paſſive* hæmorrhagies; and he obſerves, that it is the active hæmorrhagies, or thoſe attended with pyrexia, of which he is to treat in this place.

After enumerating the phænomena of hæmorrhagy, Dr Cullen proceeds to aſcertain the proximate cauſe. The different circumſtances conſtituting the proximate cauſe, ſeem to him to be the following.

Some inequality, he thinks, takes place in the diſtribution of the blood occaſioning a congeſtion in particular parts of the ſanguiferous ſyſtem; and conſequently a preternatural diſtention of the veſſels of the part. This diſtention proves a ſtimulus to them, and excites their action to a greater degree than uſual; by which means the blood puſhed with unuſual force into the extremities of theſe veſſels, opens them by anaſtomoſis or rupture.

Farther, in conſequence of congeſtion, a ſenſe of reſiſtance ariſes and excites the action of the *vis medicatrix naturæ;* and the exertions of this are uſually made by the formation of a cold ſtage of fever, inducing a more vigorous action of the veſſels; and the concurrence of this exertion more effectually opens the extremities, and occaſions the diſcharge of the blood.

In order to account for the return of hæmorrhagy, it is obſerved, that though it may depend upon the ſtate of the veſſels of a particular part, yet it is neceſſary to that ſtate's producing its full effect, that the whole ſyſtem be in its natural plethoric condition; and if this ſhould be in any degree beyond what is natural, it will more certainly determine the effects of topical congeſtion to take place. But hæmorrhagy has always a tendency to encreaſe the plethoric ſtate of the ſyſtem, and to occaſion its own return.

As the renewal and farther accumulation of blood require a determined time, ſo, on the ſeveral repetitions of hæmorrhagy, that time will be nearly the ſame; and therefore, the return of hæmorrhagy will be commonly at ſtated periods, as has been obſerved frequently to happen.

Dr Cullen explains the occurrence of hæmorrhagy from particular veſſels, and at certain periods of life, by taking a view of the gradual increaſe, and ſucceſſive evolution of the different parts of the body. He ſuppoſes that the veſſels in thoſe parts which are firſt completely formed, will firſt be capable of reſiſting the action of the heart; ſo the determination of the blood will moſt readily produce in that part a rupture of the veſſels, or a hæmorrhagy.

When the ſeveral parts of the ſyſtem of the aorta have attained their full growth, and are duly balanced with one another, if then any conſiderable degree of plethora remain or ariſe, the nicety of the balance will be between the ſyſtems of the aorta and pulmonary artery; and though the leſſer capacity of the veſſels of the lungs is commonly compenſated by the greater velocity of blood in them, yet if this velocity be not always adjuſted to the neceſſary compenſation, it is probable that a plethoric ſtate of the whole body will always be eſpecially felt in the lungs; and therefore, that a hæmorrhagy, as the effect of a general plethora, might be frequently occaſioned in the lungs, even although there were no fault in their conformation.

There is another circumſtance in the animal œconomy, of which Dr Cullen avails himſelf. About the prime of life, or the age of 35, an equal balance takes place between the arterial and venous ſyſtems, and between the different parts of each; but after this period the arteries, in conſequence of the gradual condenſation of their coats, which had been going on from the beginning of life, and which ſtill continues to increaſe, by the ſtronger reſiſtance which they give to the paſſage of the blood through them, become an over-match for the veins; hence an accumulation of blood in the veins, or venous plethora, ariſes. This part of our Author's doctrine is founded on the experiments of Sir Clifton Wintrigham. It is upon this foundation that Dr Cullen explains the hæmorrhagies that occur in the later periods of life, particularly the hæmorrhoidal flux; the blooding at the noſe which happens to people advanced in life; the pouring out of blood into the cavity of the cranium, the effect of which is to produce apoplexy; and which is therefore properly named by Dr Hoffman, *hæmorrhagia cerebri*.

After enumerating the occaſional cauſes, Dr Cullen delivers the cure of hæmorrhagy. Here he takes occaſion to combat the doctrine of the Stahlian ſchool, which maintains, that hæmorrhagy is generally to be encouraged, and ſometimes ſolicited; and is not to be ſuppreſſed, unleſs when it goes to great exceſs, or happens in parts in which it may be dangerous.

On the contrary, our Author alledges that hæmorrhagy, either on its firſt attack, or after recurrence, is never neceſſary to the health of the body, unleſs upon the ſuppoſition that we cannot prevent or remove the plethoric ſtate which ſeems to require the evacuation. But as he judges this poſſible in moſt caſes, ſo he does not think that hæmorrhagy is in all caſes neceſſary; in general,

neral, he thinks that hæmorrhagy is to be avoided.

1*ſt*, Becauſe it does not always happen in places where it is ſafe.

2*dly*, Becauſe often, while it may relieve a plethoric ſtate, it may, at the ſame time, induce a very dangerous diſeaſe.

3*dly*, Becauſe it may often go to exceſs, and either endanger life, or induce a dangerous infirmity. And,

Laſtly, Becauſe it has a tendency to increaſe the plethoric ſtate it was meant to relieve, to occaſion its own recurrence, and thereby to induce a habit, which, if left to the precarious and unequal operation of nature, may, from the frequent errors of this, be attended with much danger.

The means which Dr Cullen propoſes for preventing the recurrence of hæmorrhagy, is agreeable to the doctrine laid down, the obviating the plethoric ſtate of the ſyſtem by abſtinence, exerciſe, and temporary evacuations; always, however, avoiding blood-letting, as inducing a bad habit, and tending to increaſe the plethoric ſtate.

The ſecond meaſure recommended to prevent hæmorrhagy, is the avoiding occaſional cauſes.

After enumerating the ſeveral means to be employed, when hæmorrhagy actually takes place, Dr Cullen proceeds to treat of particular hæmorrhagies; but our limits will not permit us to follow the ingenious Author in his obſervations on theſe; and we eſteem it the leſs neceſſary to do ſo, becauſe this part of the ſubject is connected with the general doctrines, of which we have endeavoured to give an account.

The fifth book, which concludes this volume, treats of the *profluvia*, or fluxes of our Author. Of theſe Dr Cullen only conſiders two genera, the Catarrh and Dyſentery, as being more eſpecially marked by the preſence of febrile ſymptoms. Dr Cullen attributes catarrh to the application of cold to the ſurface of the body, when it operates by ſtopping perſpiration. From the ſimilarity between the fluid exhaled from the ſkin and the lungs, he thinks, that upon any ſtoppage of the former, the fluid will be determined to paſs off by the latter, and from the increaſed quantity of conſequence poured out into the bronchiæ, the ſymptom of cough ariſes.

Dr Cullen marks another ſpecies of catarrh ariſing from contagion, frequent examples of which have been obſerved ſince the 14th century. This is the moſt general epidemic that has been known, for it ſeldom appears in one part of Europe, without ſucceſſively pervading the whole of it, and it has even been carried to America, where it has raged in a ſimilar manner.

This, however, makes no real diſtinction in the diſeaſe; the fever in catarrh, from contagion, is generally more acute, but the treatment in both caſes is the ſame, and muſt be regulated according to the violence of the ſymptoms.

Dr Cullen gives a very full enumeration of the ſymptoms of dyſentery. He thinks the remote cauſe of this diſeaſe is a ſpecific contagion, and that the proximate cauſe of it conſiſts in a preternatural conſtriction of the colon. This points out the moſt effectual method of treatment, viz. *purging* aſſiduouſly employed. The means for this may be various, but our Author thinks, that the gentle laxatives are uſually ſufficient, and he puts great dependence on the uſe of tartar emetic in ſmall doſes.

He concludes the preſent work, by making ſome uſeful obſervations on other means of cure, which may be requiſite for particular ſymptoms occurring in the courſe of the diſeaſe.

V.

Diſputatio inauguralis Medica, ſiſtens tentamina quædam cum Aere fixo in ægrotis inſtituta, Auctore Joanne Jaſſoy, *Hanovienſe. 4to. Goettingæ.*

OUR Author ſeems to be well acquainted with the different propoſals that have of late years been made in Britain, reſpecting the employment of fixed air in the cure of diſeaſes.

After narrating the opinions of the ſeveral gentlemen who have laboured this ſubject, he gives the hiſtory of ſeven caſes which he treated with this medicine. From the reſult of his practice, he draws the following concluſions: That fixed air was of no ſervice in phthiſis, calculi of the kidneys, or in ſcrophula, and of very little uſe in the cure of worms: That the external application of it in *tinea capitis* appeared to be of uſe. And he thinks it worth while, to enquire whether it excels other medicines employed in this complaint. In ſome caſes he found, that fixed air promoted the flow of urine, in others it induced ſweat, and in one inſtance excited diarrhæa. He alſo found, that the urine ſo promoted precipitated quick-lime from water.

He concludes with giving it as his opinion, that the powers of fixed air as a medicine, are not ſo great as many celebrated men have thought them.

VI.

Thoughts on Amputation, being a Supplement to the Letters on Compound Fractures, and a Comment on Dr Bilguer's Book on this Operation: To which is added a ſhort Eſſay on the Uſe of Opium in Mortifications.—By Thomas Kirkland, M. D. *Member of the Royal Medical Society of Edinburgh.* 8*vo.* London.

Dr Kirkland's intention in this publication, is to vindicate Dr Bilguer's doctrine with regard to amputation, which he thinks has been miſunderſtood. At the ſame time, he wiſhes to rectify ſome miſtakes reſpecting the opinion of that Author, which he himſelf fell into in the introduction to his letters on fractures.

The doctrine contended for by Dr Bilguer is, that the caſes in which amputation is neceſſary, are much leſs frequent than has been hitherto ſuppoſed. To determine this point, Dr Kirkland conſiders, at conſiderable length, the different morbid conditions which have been thought to require amputation. From much ingenious reaſoning, in which he diſplays a thorough knowledge of the writings of the moſt eminent ſurgeons, both ancient and modern, he draws the following concluſions.

1ſt, That in mortifications which ſpread to the bone, amputation, when neceſſary, ſhould not take place till we can apply the ſaw betwixt the living and the dead parts; and that this mode of amputating ſhould, in this inſtance, be preferred.

2dly, In compound fractures of the long bones of the extremities, we ſhould act on the ſide of probability. If there is a probability of the limb being ſaved, we ſhould attempt to ſave it; but if there is no hope of a cure without amputation, it ſhould take place without loſs of time, giving preference, as often as opportunity offers, to the method of removing the limb at the injured part; and in all this we ſhould be directed by experience, without ſuffering ourſelves to be guided by conjectural reaſoning, or to be alarmed with the frightful appearance of a deſperate caſe.

3dly, If in compound fractures of the joints, the bones be not much ſhattered, or the ligaments and veſſels ſo much torn that there can be no poſſibility of a future circulation, and if the head or heads of bones can be conveniently taken away, or if there be a large opening, ſo that no matter can lodge, or air be confined, a cure will often, or for the moſt part happen. Whereas, if great ſuppuration on the membranes and tendons, with foul bones and a colliquative fever follow, amputation of the limb will generally be neceſſary to preſerve life.

4thly, If care has not been taken to preſerve the patient's ſtrength, and the ſtrength of the limb in compound fractures, from the beginning, we may be obliged to have recourſe to amputation, as a doubtful remedy is better than none.

5thly, Daily experience, and the concurring teſtimony of eminent men, evince, that violent contuſions in the ſoft parts, with ſhattered bones, unaccompanied with a wound, may generally be cured without amputation.

6thly, It is not neceſſary to amputate on account of a wound, or a ſimple diviſion of the main trunk of an artery, carrying blood through a limb, except it be made above where the veſſel ſends off collateral branches; and when this happens in the axilla, it ſhould ſeemingly take place to prevent a mortification. The ſame may be ſaid in recent aneuriſms, ariſing from injury done to the artery. But in old aneuriſms, or in wounds of the principal trunk of the arteries, where the collateral branches are at the ſame time ſo obſtructed from the injury, that a circulation cannot be carried on, timely amputation may prevent mortification, and preſerve the life of the patient.

7thly, In a caries of the cylindrical bones, the limb may be preſerved although the greateſt part of the bone be taken away. Even where the heads of the bones in a joint are foul, but unattended with pain or fever that may endanger the life of the patient, we may wait with patience in hopes of an anchyloſis taking place.

On the contrary, when the exfoliation or removal of the long bones cannot be procured; after a colliquative fever, remedied by dilatations, proper dreſſings, and proper internal medicines; or where the heads of all the bones in a joint are become foul, the ligaments, *&c.* thickened and ſpoiled, and great pain, fever and their attendants, invade the patient, amputation muſt take place, or he will probably die.

8*thly*, In local ſcirrhi, extirpation will be ſucceſsful; but when glands are ſcirrhous in ſeveral parts of the body at the ſame time, or when the whole body is contaminated by the abſorption of cancerous virus from a local ſcirrhus or cancer, death only can be expected. Beſides theſe, there are other diſeaſes, ſuch as different kinds of anamolous tumours, *&c.* which may ſo perfectly deſtroy the limb on which they are ſeated, that nothing but the removal of it can do ſervice. But we again inſiſt on what we firſt principally contended for, that in private country practice, where the limb is properly treated, gangrenes, or a great diſcharge of matter in bad compound fractures, are ſeldom fatal; that amputation is very rarely neceſſary in theſe accidents. And we muſt think thoſe muſt have been very unfortunate, whoſe experience led them to be of a contrary opinion.

On the ſubject of opium as a medicine in mortification, Dr Kirkland recommends it only in caſes where the diſeaſe proceeds from previous inflammation and conſequent obſtruction; in ſuch inſtances, even when given in ſmall but repeated doſes, he has found it highly ſerviceable.

VII.

Pharmacopœa Roſſica. *4to.* Petropoli.

THERE is perhaps no branch of medical ſcience, in both the theory and practice of which greater reformations have been made than in pharmacy. This aſſertion every one will readily allow, who conſiders with any attention the editions which have lately been publiſhed of the Pharmacopœa Danica, Suecica, Edinburgena, and of the Diſpenſatorium Pharmaceuticum Brunſvicenſe. Of the alterations and improvements which have been made in theſe works, by colleges of phyſicians, eſtabliſhed and ſupported by royal authority, we have already given ſome account in former numbers of this work.

The publication now before us is the production of a college which had no former Pharmacopœa to correct. Among the many improvements which have of late been made in the Ruſſian empire in every department of ſcience, medicine has not been neglected. The preſent Empreſs, to whom her country is indebted for many uſeful ſeminaries of education, ſuperintended by learned men invited from different countries in Europe, has alſo eſtabliſhed a College of Phyſicians at Peterſburgh. The preſent Pharmacopœa, publiſhed for the uſe of the Ruſſian empire, is the firſt production of their conjoined labours.

The Authors of this work ſeem to have availed themſelves of a careful peruſal of all the Pharmacopœas lately publiſhed; and from the manner in which their work is executed, other nations may in their turn be benefited by the preſent publication. The nature of this work does not admit of a proper analyſis; and thoſe who wiſh to derive inſtruction from it muſt have recourſe to the original. We ſhall however briefly endeavour to point out a few of thoſe particulars in which it chiefly differs from the Edinburgh Pharmacopœa.

This Work is divided into two parts. The firſt of theſe is entitled *Materia Medica;* the ſecond, *Præparata & Compoſita.* In both parts, the different articles are arranged in alphabetical order. In enumerating the different articles of the Materia Medica, they have followed a plan more nearly reſembling that of the Pharmacopœa Suecica than that of the Pharmacopœa Edinburgenſis. This plan will be better underſtood from a few examples than from any explanation. And for this purpoſe we ſhall here preſent our readers with the ten firſt articles in the order of the liſt.

ABIETIS turiones, reſina granulata.

Pinus Abies LINNÆI. Yeal Roſſorum. Arbor per Roſſiam ſeptentrionalem vulgatiſſima.

ABROTANI herba.

Artemeſia Abrotanum. Bogie dereva. Frutex per Roſſiam auſtralem ſpontaneus, et Petropoli perennans.

ABSINTHII PONTICI vel ROMANI herba.

Artemeſia Pontica. Bielaya Neforoſhtſh. Suffrutex per Roſſiam auſtralem ſpontaneus.

ABSINTHII VULGARIS herba ſummitates.

Artemeſia abſinthium. Polin. Planta ſubperennis, in Roſſia et Siberia ſpontanea.

ACACIÆ flores; fructus.

Prunus ſpinoſa. Tiern. Arbor in Roſſia auſtrali ſpontanea.

ACETOSÆ herba recens; radix.

Rumx acetoſa Shtſhavel, planta perennis in omni Roſſia et Siberia ſpontanea.

ACETOSELLÆ *herba recens.*

Oxalis acetoſella. Kiſlitza vel Orobinetz. Planta perennis in Roſſia ſeptentrionali et Siberia ſpontanea.

ACETUM VINI. Reinſkovoi ookſoos. Ab exteris vel a Roſſia auſtrali.

ACETUM VULGARE, Proſtoi vel Pivnoi ookſoos. E Cereviſia, vel e cremati reſiduo, in Roſſia paratur.

ACONITI, herba.

Aconitum Napellus, Boretz proſtrelnaia trava, Pregral Liutik, planta perennis, in Roſſia temperata et Siberia auſtrali ſpontanea.

From this ſhort ſpecimen, our readers will readily be able to underſtand the plan followed in the Pharmacopœa Roſſica, with reſpect to the liſt of the Materia Medica. In the original, the Ruſſian name of each article is printed in the Ruſſian character. But for want of the proper types, we have here been obliged to employ the

Roman character. With reſpect to the articles introduced into this liſt, the Authors obſerve in their preface, in medicamentorum ſimplicium delectu, ſevera nimis cenſura uti non placuit. Accordingly, ſeveral articles which do not now in general ſupport the character which they formerly had, and which have been rejected from other pharmacopœas, have nevertheleſs obtained a place in this liſt. It muſt alſo be obſerved, that they have adopted ſeveral articles which have not yet obtained a place in almoſt any other pharmacopœa. Among other articles not yet adopted by the Edinburgh College, which they have inſerted in their liſt, we may mention the following, Folia recentia alni, Nuclei amygdali Nanæ, fructus Cacoa, radix Caricis, Coccus polonicus, cortex Coneſſi, radix Crambes, radix Lobeliæ, radix Mungos, faba Pechurim, lignum radicis Quaſſiæ, herba Rhododendri, ſemen Sabadillæ, radix Salab, herba Salicariæ, cortex Salicis fragilis, et Salicis pentandræ, herba cum radice Spigeliæ anthelmiæ, radix Spigeliæ Marilandicæ, Spongia, *&c.*

The articles in this liſt, are upwards of four hundred in number. To the liſt a note is ſubjoined, in which it is obſerved, that there are ſeveral

veral other ſimples lately introduced into practice, the powers of which are well atteſted. But as the members of the Imperial College of Phyſicians at St Peterſburgh have not had an opportunity of aſcertaining the uſe of theſe articles by their own experience ; and as they think that farther trials are ſtill wanting for eſtabliſhing their character, they recommend them to the induſtry and attention of the Ruſſian practitioners. Of theſe, the following may be given as examples. Oenanthæ crocata, folia Laurocerafi, flores Cardamines pratenſis, Digitalis purpurea, Sedum rupeſtre and Phytolacca decandra from the vegetable kingdom ; the Meloe Maialis and Proſcarabæus from the animal kingdom.

In the ſecond part of this work, which conſiſts of the *Præparata & Compoſita*, the whole articles are alſo arranged in alphabetical order. With regard to particular preſcriptions, we cannot pretend to offer any remarks, we may only obſerve, that the directions given for the different preparations, appear to us to be extremely judicious ; and although there may, perhaps, be ſome exceptions, yet the formulæ are, upon the whole, both elegant and efficacious.

SECT. II.

Medical Obſervations.

I.

Experiments and Obſervations on the uſe of Bell-Metal Mortars in the Shops of Apothecaries. By —— ——— of London, communicated to Dr Duncan.

PHYSICIANS have long been acquainted with the poiſonous quality of copper; and have of late years wiſely condemned the uſe of copper veſſels in culinary preparations. Is it not then ſurpriſing, that although they have ſo well underſtood the pernicious effects of this metal, and have provided againſt it in the department of the cook, they ſhould yet ſuffer apothecaries ſhops, and chymical elaboratories to abound with copper and bell-metal utenſils?

Bell-metal may be properly ranked with copper with reſpect to its conſequences in the body; for the proportion of this metal in its compoſition is, I am credibly informed, as two to three. It appears from the following experiments, that bell-metal is ſoluble in nearly the ſame *menſtrua* with copper. The arguments, therefore, applicable to the danger of the one, muſt hold good in regard to the other.

NUMBER I.

Five grains of the raſpings of a common bell-metal mortar, made very clean, were put to half an ounce of river water, with half a dram of marine ſalt. Five grains of the raſpings of a half-penny, made alſo very clean, were added to the ſame quantity of the like mixture.

NUMBER II.

Five grains of the raſpings of bell-metal were added to half an ounce of diſtilled vinegar; gr. 5 of a half-penny were put to an equal quantity of the ſame fluid.

NUMBER III.

Five grains of the raſpings of the metals were put to half an ounce of common vinegar.

NUMBER IV.

Five grains of raſpings of each metal were put to the following mixture, ox gall dr. ſſ; olive oil dr. i. water dr. iij, miſc.

The phials containing the above were examined after a few days, and appearances were as follows:

No 1. Was as blue as the aqua ſapphirina of the ſhops diluted with about an equal part of water, and the two phials were as equally ſo as the eye could determine.

No 2. Was ſtrongly, and about equally tinted between a blue and green, but not ſo deeply as No 1.

No 3. Had a greeniſh tint; but that with copper was ſtronger than the one with bell-metal.

No. 4. Were green, but whether from metal or gall, I cannot tell; however, that with copper was much deeper than the one with bell-metal, particularly the ſupernatant oil.

The danger that may reſult from the general uſe of copper veſſels, in preparations of the kitchen, is not, in my opinion, comparable to that which is to be dreaded from their uſe in thoſe of the chymiſt or apothecary; ſince, in the firſt caſe, excepting ſalt and vinegar, few articles of a very corroding nature are ſubject to the treatment of the cook; whereas, to the apothecary belongs the management of materials of every kind. Beſides, a perſon in health is leſs liable to feel the effects of what is baneful than a valetudinarian, whoſe organs are weak, and readily thrown into diſorder. The following accident gave riſe to theſe reflections.

Some *coralium rubrum* was powdered in a bell-metal mortar, ſifted, and levigated, after the manner of treating ſuch like articles of the *Materia Medica*. The operator then proceeded to the waſhing of it, as it is termed, *i. e.* the ſeparation of the fine from the coarſe by ablutions with water. In the courſe of this proceſs he taſted the coral, to diſcover its degree of tenuity, and he thought he found a ſavour of copper; but the exiſtence of this metal in the maſs was preſently confirmed to him, by the appearance of ſome particles of it among the coarſe coral remaining in the veſſel, which, upon its detachment from the coral, proved to be pretty conſiderable in quantity.

Leſt it ſhould be alledged that the mortar wherein the coral was powdered was of a peculiar conſiſtence, it may be proper to remark, that upon the faireſt compariſon, it appeared to be of the like texture with other bell-metal mortars.

From theſe circumſtances may we not juſtly apprehend, that many of the triturated preparations of the ſhops are impregnated with copper. But we will conſider other alarming facts, that may probably prove this ſuſpicion to be too well founded.

In order to determine whether particles of metal had been rubbed from the mortar in powdering the coral, the following Experiments were inſtituted.

EXPERIMENT I.

The particles ſeparated from the coral appearing like copper, and weighing about four or five grains, were put to two drams of ſpirit of ſal ammoniac; a high ſapphirine colour preſently took place, which increaſed in depth till the particles were entirely diſſolved.

EXPERIMENT II.

A few grains of the raſpings of the mortar were put to two drams of ſpirit of ſal ammoniac; a ſapphirine colour, as in the preceding Experiment, was ſoon produced.

EXPERIMENT III.

A few grains of verdigris were added to two drams of ſpirit of ſal ammoniac; a fine blue colour was directly obtained, ſimilar to that in the former Experiment.

Theſe Experiments, I think, amount to a ſufficient proof of the exiſtence of copper among the coral.

If particles as large as grains of ſand were depoſited with the coarſe coral, as was really the caſe, we may conclude that much ſmaller ones, not perhaps diſcoverable by the naked eye, did remain ſuſpended with the fine; for extenſion of the ſurfaces of bodies, will enable them to ſwim in fluids ſpecifically lighter than themſelves.

EXPERIMENT IV.

One dram of the finely prepared coral, with two of the ſpirit of ſal ammoniac, preſently exhibited

bited a blue appearance; which, though not by much ſo deep as the ſolution Experiment 1ſt. was yet as high as any aq. ſapphirina I ever ſaw.

Theſe Experiments were ſo ſatisfactory to the apothecary under whoſe inſpection they were made, that he immediately ordered iron mortars to be procured, in place of thoſe of bell-metal, now proved to be dangerous.

I took one dram of prepared coral, and it excited a ſlight degree of nauſea. But it muſt be remembered, that the phyſician preſcribes for the ſick, and not for the heal and ſtrong. And is it not an alarming conſideration, that what is intended as a pacific remedy, may perhaps prove an auxiliary to the diſeaſe, already probably hard to be ſuſtained? This, it is to be feared, muſt be the caſe, when coral, or other abſorbents that have undergone trituration in bell-metal mortars, are given in diarrhœas, or to check violent vomiting. The cuprous impregnation which theſe powders thus prepared may have acquired, cannot but prove a moſt dangerous ſtimulus to the ſtomach and inteſtines, in an inflamed, tender, or abraded ſtate.

But if the evil before us be not general, concluſions of a general nature will be abſurd; the univerſality of it then is next to be conſidered. But no one will deny the univerſal uſe of bell-metal mortars. The inquiry therefore reſts, Whether the mortars of others are equally ſuſceptible of abraſion with that in the above inſtance?

I got ſamples of prepared coral from ſeveral of the moſt eminent apothecaries in London; ſome afforded a bluiſh tincture in the volatile alkali, and ſome a yellow, like a diluted tincture of gamboge. Some crabs claws gave the ſame kind of yellow tincture, other crabs claws imparted a greeniſh tincture. Powder of hartſhorn, which I procured from different apothecaries, afforded a light blue tincture in ſpirit of ſal ammoniac.

If we admit the inferences from the 1ſt and 2d Experiments, we are naturally led to conclude, that the blue colour in the ſubſequent ones was derived from copper; what occaſioned the yellow tinge from ſome of the coral, I cannot ſay; but this I muſt obſerve, that the coral which gave it had not the marks of being genuine. The green in the *chelæ cancrorum*, was but little remote from the blue in the other Experiments.

I have diſcovered, that the adhering membranes in crabs claws give a yellow tincture.

After what has appeared, it cannot be doubted that bell-metal mortars are liable to be abraded by hard ſubſtances powdered in them. If, however, any one ſhould diſpute the fact, let him rub ſome powder of burnt hartſhorn, coral, or crabs claws in a bell-metal mortar, and afterwards try it by a proper criterion, (the beſt I think is the volatile alkali,) and he muſt certainly admit the truth of what has been ſaid.

If the above facts, and the inferences from them, ſhould be admitted, the neceſſity of an immediate regulation in the cheſts of army and navy-ſurgeons will appear in a very ſtriking light: For army and navy medicine-cheſts are conſtantly ſupplied with bell-metal mortars, and no other of metal.

But it is highly probable, that what I have advanced may be ridiculed by many, as containing only what is common and generally underſtood. The importance of the obſervations which have been made, none ſurely will deny: Their being well known, then, implies a ſhameful ſupineneſs in thoſe whoſe buſineſs it is to enquire into theſe matters, ſince the evil is not corrected.

To determine whether a blue colour would ſucceed, on digeſting the unpulverized ingredients in the volatile alkali, I put ſome coral, crabs claws, *&c.* broken in pieces, into ſpirit of ſal ammoniac, and, after ſuffering them to digeſt many days, I examined the ſpirit, and found it limpid and colourleſs, excepting a yellowiſh caſt in that with the crabs claws, which was undoubtedly from the adherent membrane, as already hinted.

It is difficult to diſcover copper, though it ſhould exiſt, in many drugs, on account of the colour they themſelves impart to *menſtrua*, by which the teſt is obſcured; but analogical reaſoning teaches us, that all hard ſubſtances are liable, through attrition, to abrade bell-metal; whereby they will become loaded with metallic particles. Admit, however, the *poſſibility* of this effect taking place, is it not a diſtreſſing reflection, that we may *poſſibly* be giving poiſon, while we reſt ſecure in the adminiſtration of medicines in themſelves harmleſs?

I have hitherto conſidered bell-metal mortars as ſubject to *abraſion* only; but they may impart a poiſonous quality to medicines on the principle of *corroſion ;* thus, for inſtance, if you rub powder of burnt hartſhorn ever ſo little, or indeed let it lie ſome time in a bell-metal mortar, an obvious blackneſs will ſucceed, eſpecially if it be moiſtened with any liquor.

It is poſſible that the ecphractic, the ſoap pills, or any alkaline or acid preparation, may be beat up in bell-metal mortars, as theſe only are in general uſe, and at hand on all occaſions. I will not here make a comment: Let candour acknowledge: Let humanity expreſs what muſt be the conſequence of ſuch procedure. Suffer not, then, ſuch dangerous inſtruments to be ſeen in ſhops that ſhould be the repoſitories of friendly medicines, prepared with conſcientious care.

I ſhall mention, with deference, a ſuggeſtion that aroſe on conſidering the effects of ſome preparations of copper, and on reflecting that crabs claws have been eſteemed diuretic. I think then, that the teſtaceous powders have had a property aſſigned to them, which, if they poſſeſs at all, they derive from the mortars in which they are powdered.

It is notorious that cuprous preparations, in proper doſes, promote the urinary ſecretion, and hence a famous receipt of *Boerhaave ;* but I fancy it will be difficult to aſcertain any remarkable virtue of this kind in crabs claws. Their alkaleſcency will hardly be thought ſufficient to account for any ſuch property, ſince chalk is endowed with a much greater ſhare of this quality, yet is not reputed diuretic.

Having then, upon facts, exploded braſs and bell-metal, it will be required, What other kind of mortars will anſwer the purpoſes of apothecaries and chymiſts? The reply is ready; IRON. The experience of ſeveral gentlemen has proved that mortars of this metal anſwer perfectly well. It may be objected, that iron is apt to contract ruſt. But let me obſerve, that an attention to the foulneſs of bell-metal, and braſs, is much more neceſſary than to that of iron, as a neglect in the one caſe would be exceſſively dangerous, in the other, hardly more than an inelegant omiſſion. But caſt iron is really leſs ſuſceptible of the impreſſions of the air than bell-metal. Indeed, in all reſpects, it has the advantage of it, and is beyond compariſon cheaper.

Iron then, a perfectly innocent metal, muſt be the ſubſtitute to one of allowed virulence. And what ſolid objection can prevent the regulation from immediately taking place? The uneaſineſs that ever attends an uncertain practice, muſt be a powerful incentive to apothecaries to adopt it. The ſatisfaction that muſt accrue from being aſſuredly on the ſafe ſide, would of itſelf, to feeling minds, be a ſufficient reward; and the ſociety of apothecaries have, I doubt not, too much honour and honeſty, to wiſh to continue a practice ſtamped with uncertainty and danger.

II.

A ſucceſsful Method of Cure propoſed by Mr Daniel Orred, *Surgeon in Cheſter, in Diſeaſes of the Larger Joints, which have hitherto been thought to require Amputation: Communicated to* Dr Duncan *by* Dr Percival *of Mancheſter.*

THERE are few practitioners in ſurgery, I preſume, who have not peruſed Mr Pott's very ſenſible little Tract, on the propriety and neceſſity of amputation in certain circumſtances, and will not acknowledge with him, that diſeaſed joints, from ſcrophulous and other cauſes, are generally incurable. But in this paper I hope to evince, that ſome very bad caſes of this ſort are remediable by human art, even when they have been of long continuance; and that their cure may be accompliſhed by producing an abſorption of the ſtagnant and ſuperabundant ſynovia, and by drying the enlarged ends of the bones, before the ligaments and cartilages have been too much injured. It is obvious, however, that theſe means will be moſt effectual in the earlier ſtages of the diſeaſe; for though children are ſometimes cured by the ſole efforts of nature, even after the commencement of ſuppuration, yet when this occurs in adults, as it ſometimes does very rapidly, the loſs of the limb muſt be deemed unavoidable. Bilguer, and ſome later writers, have aſſerted, that tranſverſe openings may, with ſafety, be made into the cavities of the larger joints, when diſeaſed or injured; and that the limb will thus be preſerved. What ſurgeon has not experienced the deplorable and truly dreadful ſymptoms which ſuddenly ariſe from the ſlighteſt penetrating wounds of joints! Several melancholy inſtances have occured, within my own knowledge, of the fatal termination of ſuch tranſverſe inciſions, in patients who would not ſubmit to amputation. One of theſe lived near two months after the joint of the knee had been laid open, and then died tabid. The wound was almoſt healed, but the foot and leg remained bloated and leucophlegmatic.

The utility of bliſters in enlargements and white ſwellings of the joints is known to every one; but the ſubſequent mode of applying them, and the obſervations reſulting from the practice here deſcribed, will, I truſt, be deemed original.

In the ſpring of the year 1775, I was deſired to viſit Miſs Lightfoot of Hoole, two miles from Cheſter. I found that ſhe had ſuffered excruciating pain during ſeveral weeks, from a white ſwelling in the knee. She was 24 years of age; of a thin habit of body; and had been afflicted with her complaint more than 20 years. On a careful examination, I found the joint of a monſtrous ſize, hard, and knotty to the touch, and with the natural inequalities quite obliterated. The ſkin was gloſſy and ſmooth; and of a pale yellowiſh hue; the leg and thigh were much waſted. From the very great internal pain, I ſuſpected the joint would ſoon corrupt; and therefore adviſed the application of a bliſter, without delay, round the whole tumor. I explained my intended mode of treatment; and honeſtly declared that it was a new experiment. Great objections were made to it by the family, notwithſtanding their conviction that the patient's life could be ſaved only by amputation, or by the means which I propoſed. My directions were, at laſt reluctantly complied with, and by repeated perſuaſions were followed during three ſucceeding months. The part was, every day dreſſed with a digeſtive ointment made ſtrong with the powder of cantharides, and a large quantity of well concocted pus, at the ſame time, cleared away. Much pain and torment were the conſequences of this courſe, although ſhe took, every night, an opiate, the doſe of which was gradually increaſed. Gentle evacuants were alſo adminiſtered at proper intervals. About two months after the firſt application of the bliſters, the knee fell ſuddenly out of joint, on raiſing the leg, which was at that time bent, and reſting upon its outſide. And I could with facility, and without giving much pain to the patient, diſlocate it either outwardly or inwardly. The joint ſeemed then to the touch ſoft and pappy. I again placed the leg on its outſide in a bent poſition, and continued the veſicatories a month longer. At the expiration of this term, the bliſter was removed; and when the inflammation was a little ſubſided, a tight bandage was applied to ſecure the joint in a proper poſition. By degrees, the parts hardened, and in a few months, ſhe was reſtored in ſome meaſure to the uſe of her leg. She wore a tight bandage near two years, which rendered the joint quite ſtiff. But afterwards, it was ſlackened a little; and on inſpecting the knee lately, I find it is not devoid of motion and flexibility. It is ſmaller than the other, but without any deformity.

I flatter myſelf that the happy termination of this caſe will point out in ſimilar ones a new method of cure. By the like mode of treatment, ſeldom however continued ſo long; and by the uſe of proper internal remedies, I have removed a variety of ſwellings in different joints, proceeding from ſcrophula, rheumatiſm, and other cauſes.

In thoſe white ſwellings which have been cured without the intervention of art, I have always found the affected joints not only ſtiff and immoveable; but alſo very crooked: From which it ſhould ſeem that a large extent of connecting ligaments muſt have been corroded and deſtroyed. And when the knee has been the part affected, the patient has walked in a very imperfect, tottering manner. So that the mode of treatment above deſcribed has advantages in point of ſafety, ſymmetry, and mobility, even over the ſpontaneous efforts of nature, when thoſe efforts terminate favourably for the patient. I hope it will not be improper juſt to mention here, that the caſe of the poor man, which I had the honour to lay before the Royal Society, and which is publiſhed in the 69th volume of the Philoſophical Tranſactions, turns out more fortunately than is repreſented in that account. The oſſification is become more complete, and the uſe of his arm much more perfect than it was at the time, when I wrote the paper now referred to. Permit me to relate another caſe exactly ſimilar, which has ſince occurred in my practice. In September 1779, I was called to Guilden Sutton, a village, 3 miles from Cheſter, to viſit one Armine Jones, a ſtrong healthy woman, about 25 years of age. By a fall from a horſe, upon the point of her ſhoulder, ſhe had ſo violently bruiſed and injured the joint, that ſuppuration had taken place two or three months before I was conſulted. I found the capſular ligament largely corroded, the joint very foul, and the ends of the bones bare, and in ſeveral places diveſted of cartilage. The ſucceſsful cure of the former caſe induced her to conſent to undergo the ſame operation. And the event of it in this inſtance was much more fortunate than in the other; the ſubject being healthier, and a larger portion of the humerus preſerved, as the head of it alone was ſawn off. For I believe it will always be found that the loſs of ſubſtance at the end of a bone, will be ſupplied by a very imperfect oſſification.

Dr Percival *makes the following Remarks on the firſt of theſe Caſes, in his Letter to* Dr Duncan.

IN the ingenious paper, which I now tranſmit, you will find, that Mr Orred has extended the uſe of bliſters much farther than any other practitioner in thoſe ſtrumous ſwellings of the joints, which are ſo painful in their progreſs, and moſtly fatal in their termination. But I fear few patients will be found of ſufficient fortitude and perſeverance to ſubmit, for ſo long a time, to the treatment which he recommends, though, in ſuch long continued and inveterate caſes, I am afraid quite neceſſary. I hope, therefore, he will exert his ſkill and attention in deviſing ſome mode of alleviating the pain, which the ſucceſſive application of ſo many veſicatories to the ſame part, appear, from his own recital, to produce. The ſtimulus of cauſtics has been abated by the combination of opium with them, without any material diminution of their activity: And it is not improbable, that the painful irritation of bliſters may be mitigated by the ſame means. The interpoſition of a ſoft muſlin rag between a veſicatory and the ſkin, almoſt always prevents the ſtranguary, and renders its operation in every reſpect eaſier, though poſſibly more protracted. Might not ſlight electrical ſhocks, paſſed through the affected joint, be good auxiliaries in thoſe white ſwellings of which Mr Orred has treated? I have ſeen admirable effects from them in various glandular tumors. Nor do we know any more powerful means of removing obſtructions, or promoting the abſorption of ſtagnant juices.

III.

Hiſtory of a Caſe of Hydrocephalus, with an Account of the Appearances on Diſſection. — *By* Robert Willan, M. D. *Communicated to* Dr Duncan.

J. B. of the Water of Leith had, ſoon after birth, a viſible enlargement of his head; the ſutures of the cranium ſeparating very widely, till the fluctuation of a fluid within might be perceived diſtinctly, by applying the fingers. The diſorder encreaſing gradually, his head became at length of ſuch an enormous ſize, as to be out of all proportion to the reſt of his body, which was indeed remarkably ſmall for his age, and unable to ſupport the unweildy burden. It was therefore neceſſary to keep him always in a horizontal poſition, or carefully ſupport his head when any nouriſhment was given. Notwithſtanding this, he ſeemed ſtill to retain perfect ſenſe, and was affected by objects much in the ſame manner as other children of equal age, but never uttered any articulate words. Many phyſicians and ſurgeons had been conſulted, who all agreed in diſſuading his parents from any hopes of a cure.

About 15 weeks before his death, when I firſt ſaw him, he was ſeized with convulſive catchings in his limbs, which were removed in a few days. It ſeemed too late for a trial of mercurial unction, nor would his parents do more than keep him as eaſy as poſſible, and free from irritations. He took little ſuſtenance after this; and died, much emaciated, Feb. 17th, aged 20 months, without any particular ſymptom, only he appeared to have loſt all ſenſe ſome days before.

DISSECTION.

On removing the teguments, and making a perforation, betwixt three and four Engliſh quarts of thin limpid fluid were diſcharged.

This had been confined within the lateral ventricles, which were amazingly diſtended on every ſide; and had ſo compreſſed the ſubſtance of the brain, that it might be compared to a bladder, being thin, with its convolutions almoſt ſtraightened. The lining of the ventricles within ſeemed thick, and ſomewhat hard, the veſſels ſpread all over it very much enlarged.

The foramen, by which the ventricles communicate, was dilated, ſo as to admit, with eaſe, the thumb, and had a hard annular rim around it.

The plexus choroides was very dull and ſhrivelled: The corpora ſtriata greatly flattened and extenuated: The thalami nervorum opticorum were much in the ſame ſtate, but ſtill more indiſtinct: The cerebellum, medulla oblongata, *&c.* appeared perfectly natural.

His head meaſured in circumference 2½ feet, which equalled the length of the whole body within a very few inches.

Sufficient time was not allowed to make further or more accurate examination.

One thing was remarkable, that his eyes were always lively and very ſenſible, the pupils readily contracting and dilating according to different degrees of light. The explanation may be perhaps not difficult.

As the diſeaſe began ſo early, the bones of the cranium, being yet tender, gave way to the effuſed fluid, whence little preſſure would fall, in the other direction, upon the origin of the optic nerves.

IV.

The Hiſtory of an obſtinate Caſe of Epilepſy, ſucceſsfully Treated by Blood-letting: Communicated to Dr Duncan *by* Dr Robert Hamilton *of the 10th Regiment of Foot.*

A labouring man on the banks of the river Buſh, in the north of Ireland, having been long afflicted with the epilepſy; after many a long and violent ſtruggle, at length fell a ſacrifice to the ſuperior ſtrength of the foe.

His ſon, a boy of about 12 years of age, healthy and ſtrong of his years, as any in the neighbourhood where he lived, and who never had before that the leaſt ſymptoms of ſuch an affection, fell into fits. The diſeaſe daily gathered ſtrength, and in a ſhort time he became a moſt miſerable object. From a fair, ruddy, and healthful complexion, he now wore a moſt ghaſtly look, frightful and wild, and became a mere ſkeleton.

Thus his diſeaſe continued for ſome years, ſtill gathering ſtrength. Sometimes, for a whole day together, he could not be ſaid to be out of the fit; for as ſoon as he would open his eyes to the light, he would fall immediately into another.

His caſe now became deſperate; and his friends, as well as the ſympathizing neighbourhood, wiſhed only for death to relieve him from his diſtreſs, as they thought him out of the reach of medical aid. One day as he lay ſenſeleſs, and convulſed, in which condition he had continued from morning till evening, while a commiſerating crowd were gathered around, wiſhing for his end, it ſuggeſted itſelf to one of the multitude, that perhaps bleeding might be of ſome uſe; that however improbable the ſucceſs might appear, yet it was a duty to attempt ſomething for his relief.

Bleeding is, among the common people, a cure for every thing; and what at this time probably gave him the idea, was the ſchool-maſter of the pariſh then joining the crowd.

The ſchool-maſter generally lets blood, as one part of his parochial duty. As the patient was given over long ſince for loſt, the propoſed remedy met with little oppoſition from his friends, having as little hopes of its ſucceſs. Accordingly his arm was tied up, as he lay on the ground, and blood let from a large orifice, (not being over nice in the operation,) and the blood was allowed to flow on the ground. Scarcely was this performed, when the boy began to look up, and recover from the fit. Though it was only looked on as a protraction, not as a cure of the complaint, yet his arm was taken care of, and bandaged. However, to their great joy, and contrary to their expectation, he recovered perfectly, and has never ſince had another fit, though it is now above a year. In the ſpace of a few days his looks altered, and he ſoon became as fat and fair as ever he was in his life.

This relation I had firſt from the miniſter of the pariſh, a very worthy man, who was perfectly acquainted with every thing relating to the caſe, and whoſe veracity is unqueſtionable; and again from the ſchool-maſter who bled him.

What I wiſhed moſt to aſcertain, was the quantity of blood loſt. This I was not able ſatisfactorily to learn, as it was ſuffered to flow on the ground; but, according to the ſeveral queſtions I put to him, in order to have ſome idea of it, I think it could not be leſs than between two and three pounds.

As this is a diſeaſe that very frequently happens, and as yet has kept beyond the reach of phyſic, in moſt inſtances, when it has once been confirmed into a habit in the conſtitution, every thing which has ſucceeded as a cure in any caſe, whether by accident, as the preſent, or otherwiſe, ſhould be faithfully communicated to the public. It is but giving the patient a fair trial for his life, when one remedy fails, to have recourſe to another, till we have gone through every one which ſeems to have any probability of ſucceſs, or has ever, in any inſtance, ſucceeded. Neither bliſters, iſſues, ſetons, the actual cautery, powder of orange-leaves, the preſent much boaſted flowers of zinc, and all the other claſs of antiſpaſmodics in daily uſe, will in every caſe anſwer; yet no one of them is to be overlooked as uſeleſs. And from the preſent caſe, which is faithfully related, we ought to turn our attention to large bleedings, eſpecially in ſome habits; and perhaps it may be found to ſucceed in more caſes than at firſt view we might be led to ſuſpect: Its great antiſpaſmodic powers are known, and daily acknowledged by all the faculty.

Blood-letting ſeems the more to be depended on, from another caſe told me by a gentleman, a ſtudent of medicine, to whom I had related the preſent. He had read, but did not then recollect where, of a caſe ſomewhat ſimilar: It was of an epileptic patient falling down in a fit, and accidentally having his temporal artery opened by ſome ſharp ſubſtance on which he fell; it bled profuſely before it could be ſtopped, and the patient was radically cured by the hæmorrhagy.

SECT. III.

Medical News.

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ALTHOUGH the following paper will probably ſoon fall into the hands of ſome of our readers through the channel of the Philoſophical Tranſactions, yet we flatter ourſelves it will not be diſagreeable to many of them, that we employ a few pages, in communicating early intelligence of what promiſes to be an important diſcovery.

To the Right Honourable the Earl of STAMFORD, *Preſident of the Agriculture Society at Mancheſter.*

MY LORD,

THE following account of a new method of making pot-aſh was lately read before the Royal

Society, and will be inſerted in the next publication of that learned body. But as the diſcovery is highly intereſting to the farmer, and the Philoſophical Tranſactions are in few hands, I take the liberty of communicating it to the Agriculture Society.

I have the honour to be,

My Lord,

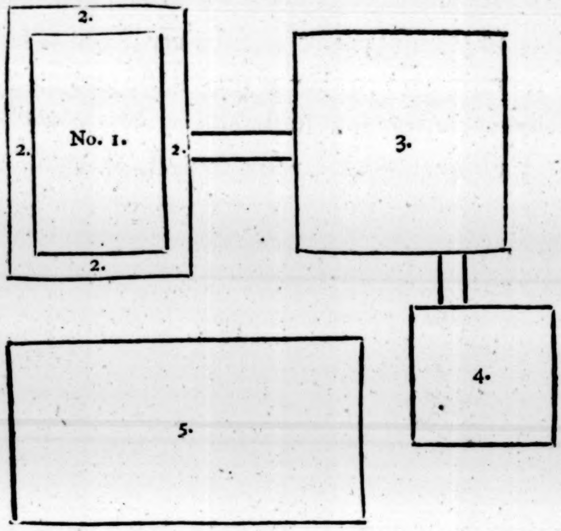
Your Lordſhip's moſt humble Servant,

MANCHESTER, THOMAS PERCIVAL.
April 19. 1780.

An Account *of a new and cheap Method of preparing* POT-ASHES; *with Obſervations.*

THE Agriculture Society at Mancheſter have long recommended the making of reſervoirs, for the water which flows from dunghills in farm-yards. This water is ſtrongly impregnated with the ſalts, and putrid matter of the dunghill; and by ſtagnation, it acquires a much greater degree of putreſcency, and probably becomes proportionably more replete with ſalts. When thus collected and improved, it is pumped into an hogſhead, which being drawn upon a ſledge or ſmall cart, is conveyed into the meadows, for the purpoſe of ſprinkling them with this rich manure. This important improvement in rural œconomy, I apprehend, has not been extended much beyond the diſtrict of our ſociety; and it ſeems to be unknown to one of the lateſt, and moſt intelligent writers on huſbandry. For Lord Kaims, in a recent work on this ſubject, of which he has favoured me with a copy, has not even mentioned it.

But theſe reſervoirs may be applied to a purpoſe ſtill more ſubſervient to public utility, than that above deſcribed. Joſiah Birch, Eſq; a gentleman, who carries on an extenſive manufactory, and bleaches his own yarn, about ſix months ago, was induced, by a happy turn of thought, to try whether the dunghill water might not be converted into pot-aſhes. He accordingly evaporated a large quantity of it, and burnt the reſiduum in an oven; the product of which ſo perfectly anſwered his expectations, that he has ever ſince continued to prepare theſe aſhes, and to employ them in the proceſs of bucking. A ſtranger to that narrowneſs of ſpirit, which ſeeks the concealment of a lucrative diſcovery, he is deſirous that it ſhould be communicated to the Royal Society, and has furniſhed me with the following account, together with the plan annexed *.



" No. 1. The dunghill.
" 2. A ſough, or drain, round the bottom of the
" dunghill.
" 3. A hole, or pit, to receive the muck water from
" No. 1.
" 4. A well, to receive the muck water from the
" pit, wherein a pump is fixed to convey it to the pan,
" No. 5. in which it is boiled to the conſiſtence of treacle,
" and afterwards burned in an oven. The pan, No. 5. is
" formed at the bottom of iron plates; and turned up a
" little round the edges, to which deal planks are ſcrewed,
" ſo as to make it abont twenty inches in depth."

“ The quantity of muck water uſed, was
“ twenty-four wine pipes full; which employed
“ a man and two horſes two days, to cart it
“ from the pump to the pan wherein it was
“ boiled: But this expence I ſhall now ſave;
“ as I ſhall lay a ſough of brick, which will con-
“ vey it from the pump to the boiler. The
“ coals uſed to boil and burn it, were one hund-
“ red and twenty baſkets; and I ſuppoſe each
“ baſket weighs ſix ſcore pounds, or upwards.
“ One man was occupied three weeks in boil-
“ ing and burning. The quantity of aſhes made,
“ was 9 Cwt. 1 Q. 12 lb.; well worth, at the
“ preſent price of aſhes here, two guineas *per*
“ hundred.

“ 9 Cwt. 1 Q. 12 lb. at 42 s. *per* “ Cwt. - - -		L. 19 13 0
“ A man and two horſes two days, “ at 6 s. -	L. 0 12 0	
“ 120 baſkets of coals, “ at 5 d. *per* baſket,	2 10 0	
“ A man’s wages for “ three weeks,	1 7 0	
		L. 4 9 0
		L. 15 4 0

“ The gain therefore amounts to L. 15 : 4 : 0,
“ deducting

" deducting only a trifle for the wear of the pan " and oven."

The profits ariſing from this preparation of pot-aſh, are ſufficiently evinced by the foregoing eſtimate; and they may, perhaps, admit of increaſe by future improvements. In the ſpring and ſummer ſeaſons, I ſhould ſuppoſe, the evaporation might be carried on without the aid of fire; by conveying the dunghill water from the reſervoir, through proper ſluices, into ſhallow troughs or ponds, of ſuch extent as to afford a ſufficient ſurface for the action of the ſun and wind *. Theſe might be covered in rainy weather

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* The following abridged view of a meteorological regiſter, which I kept with great exactneſs during the years 1774 and 1775, may throw ſome light on the practicability of this plan in the climate of Lancaſhire, which, I believe, is nearly the ſame as that of moſt of the other weſtern counties of England.

1774.					1775.			
Months.	Thermometer 2 o'Clock P.M		Days.		Thermometer 2 o'Clock P.M.		Days.	
	higheſt.	loweſt	rainy.	dry	higheſt.	loweſt.	rainy.	dry.
Jan. Feb. Mar.	56	28	25	65	54	30	61	29
Apr. May, June,	72	45	55	36	78	51	42	49
July, Aug. Sep.	75	53	66	26	74	48	62	30
Oct. Nov. Dec.	60	30	43	49	64	32	50	28*
	52, 25 Mean heat.		189	176	55, 7 Mean heat.		215	136

* 14 days omitted; no account being taken.

The

ther with awnings of canvaſs, painted on the outſide black, and white on the inſide; the former with a view to abſorb, the latter to reflect the rays of light.

This pot-aſh is of a greyiſh white appearance, deliqueſces a little in moiſt air, but if kept in a dry room near the fire, acquires a powdery ſurface. It is hard, and of a ſpongy texture when broken, with many ſmall cryſtals in its ſubſtance. The colour of its internal parts is duſky, and variegated. To the taſte, it is acrid, ſaline, and ſulphureous. It emits no ſmell of volatile alkali either in a ſolid form, diſſolved, or when added to lime-water; neither does it communicate the ſapphire colour to a ſolution of blue vitriol. Silver is quickly tinged black by it, a proof that it contains much phlogiſton. Ten grains of this pot-aſh required eleven drops of the weak ſpirit of vitriol to ſaturate them: the like quantity of ſalt of tartar

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The thermometer was made by Dollond, and graduated according to the ſcale of Farenheit. It was placed in the open air, and in a northern expoſure. The column of rainy days expreſſes the *leaſt* as well as the *greateſt* quantity of rain; the column of dry includes only thoſe days in which not a ſingle ſhower was noticed. The day comprehends twenty-four hours. About thirty-three inches of rain, at a medium, fall yearly in Mancheſter.

tartar required of the ſame acid, twenty-four drops. A ſtrong efferveſcence occurred in both mixtures: from the former, a ſulphureous vapour was exhaled. A tea ſpoonful of the ſyrup of violets diluted with an ounce of water, was changed into a bright green colour by five grains of the ſalt of tartar; but ten grains of this new pot-aſh were neceſſary to produce the ſame hue in a ſimilar mixture. Half an ounce of the pot-aſh, diſſolved entirely in half a pint of hot water; but when the liquor was cold, a large purple ſediment ſubſided to the bottom: and it was found, that this ſediment amounted to about two thirds of the whole quantity of aſhes uſed.

I have not leiſure at preſent to proſecute theſe experiments farther; and ſhall therefore content myſelf with making a few general obſervations on the facts which have been advanced.

1. This pot-aſh is a true fixed vegetable alkali, and a product of putrefaction which has not, that I recollect, been noticed by the chemiſts. A very celebrated writer has even in expreſs terms aſſerted, that "all vegetables, not excepting thoſe "which in their natural ſtate furniſh aſhes con-"taining much fixed alkali, when burnt, after

" their acid has been altered by a complete putre-" faction, leave aſhes entirely free from alkali*."

2. The quantity of alkali contained in this pot-aſh may, with ſome probability, be eſtimated at about one third of its weight; whereas the white Muſcovy aſhes are ſaid to yield only one eighth part†. Of its impurities, ſulphur is the moſt injurious to its bleaching powers, and ſhould, in the preparation of it, be carefully ſeparated. A longer-continued, and more gentle calcination, in a furnace ſupplied with a ſufficient current of air, might, perhaps, anſwer this end. But the moſt effectual method would be to lixiviate the ſalts with pure water, after a moderate fuſion, and then to evaporate them ſlowly to dryneſs. It muſt however be remarked, that in thus freeing the pot-aſh from phlogiſtic matter, another impurity is generated. For both the action of fire, and the ſolution in water, convert into earth, a portion of the alkaline ſalt.

3. No quick lime appears to be contained in this pot-aſh: For a ſolution of it, poured from its ſediment, remained clear, though long expoſed to the air. Nor did it acquire any milkineſs by

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[*] Macquer's Dictionary of Chemiſtry, Article ALKALI.

[†] Home on Bleaching, page 157.

by being blown into from the lungs. But perhaps the addition of this cauſtic ſubſtance, in a due proportion, would increaſe its activity and value, when employed in many of the arts. For the Ruſſian pot-aſh is more pungent to the taſte, ſaturates a larger proportion of acid, and diſſolves oils more powerfully than the purer alkaline ſalts. And Dr Home has proved *, that theſe qualities depend on a large admixture of quick-lime.

4. It would be worthy of trial, to aſcertain whether the large purple ſediment, which ſubſides when this pot-aſh is lixiviated, might not be applied to the manufacture of Pruſſian blue; or uſed in the manner recommended by Mr Macquer, for dying wool and ſilk. See the Memoirs of the French Academy for the year 1749 †.

5. The farmer, though he live at a diſtance from the manufactures in which pot-aſh is employed, may find his account in preparing it from dunghill water. For it will furniſh him with a top-dreſſing for his garden and land, of great fertilizing powers. But if fewel be dear where he reſides, and neceſſaries wanting for the conſtruction

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* Eſſay on Bleaching. Neumann's Chemiſtry, by Lewis.

† See alſo Neumann's Chemiſtry, by Lewis.

ſtruction of a furnace, the ſimple evaporation of the water may ſuffice. And the putrid lye, thus reduced to a ſolid form, will prove to be a rich manure. At Hart-hill, my ſummer abode, about three miles from Mancheſter, I have lately practiſed a method of making a compoſt of dunghill water. The weeds and rakings of the garden, the dreſſings of the fields, the leaves blown from the trees, and other refuſe matters, are put together near the reſervoir; out of which the water is occaſionally pumped, and ſcattered over the heap. So ſtrong a ferment almoſt inſtantly excites putrefaction; and theſe vegetable ſubſtances are ſoon converted into a fertile mould, which, retaining the ſalts and oils of the dunghill water, ſuffers the ſuperfluous moiſture to exhale into the air, or to percolate through it. And I have found by experience, that the compoſt, thus prepared, is laid on the meadows at leſs expence, and that it is more efficacious and durable in its operation, than the ſprinklings which, at ſtated times, they formerly received. For my land, though good, and in fine condition, is light and ſandy; and the dunghill water quickly paſſed below the roots of the vegetables, which grow upon its ſurface.

POSTSCRIPT.

It has been ſuggeſted to me, that the foregoing diſcovery has no claim to the patronage of the Agriculture Society, becauſe in this manufacturing county it may eventually tend to check the cultivation of land, by robbing it of one ſpecies of manure. But I conceive the operation of it will be entirely the reverſe: For it will promote the collection of every putreſcent article, and thus augment the farmer's dunghill, at the ſame time that it excites a more univerſal attention to the preſervation of muck water; the reſervoirs for which are yet few, and have been made chiefly by thoſe who follow huſbandry for amuſement, and not as an occupation. The public therefore will be gainers both by the ſaving, and by the acquiſition; and a twofold branch of rural œconomy will be eſtabliſhed, at once lucrative to the huſbandman, and important to the artiſt and manufacturer.

But admitting all the ſuppoſed force of the allegation, it muſt ſurely be acknowledged, that the main deſign of our inſtitution is to increaſe the productiveneſs of agriculture, by ſtimulating the farmer to every beneficial undertaking, conſiſtent with his profeſſion. Now in this caſe, the *beneficial* is beſt meaſured by the Hudibraſtic ſtandard: for,

> “ What's the value of a thing,
> “ But ſo much money as 'twill bring?”

I truſt, therefore, that the Society will not, by declining to patronize the preſent diſcovery, juſtify the ſarcaſm of an ingenious Poet of this place, who has humorouſly charged ſome of us with teaching,

> “ By crops increas'd, and profits leſs,
> “ The way t' enrich the nation.”

AT a Meeting of the Agriculture Society *held at* Mancheſter, *April* 24, 1780.

RESOLVED, *That a Silver Medal be given to* JOSIAH BIRCH, Eſq; *for the Diſcovery of a new and cheap method of making Pot-aſh.*

RESOLVED, *That the Thanks of the Society be given to* DR PERCIVAL, *for his Account of this Diſcovery; and that the ſame be printed for the uſe of the Members.*

* * * *

The following directions for preventing fatal effects from drinking large quantities of ſpirits, have been printed and diſtributed at Liverpool. They were drawn up by Dr Houlſton of that place, in conſequence of ſome melancholy accidents happening from this cauſe, where proper aſſiſtance was not ſought for. As ſuch accidents are but too common, it is of importance that the moſt ſucceſsful practice in thoſe caſes ſhould be generally known.

Many perſons are deſtroyed ſuddenly by drinking large quantities of ſpirits. Their firſt effects are ſtimulant; they quicken the circulation, and occaſion much blood to be thrown upon the head. They afterwards prove ſedative; they bring on ſtupor; loſs of reaſon, total; of motion and ſenſation, almoſt total. Their effects may be partly owing to their entering, in ſome degree, into the circulation, but depend chiefly, when violent, on their action on the nerves of the ſtomach. In conſequence, the brain is affected, and the nervous influence ſuſpended, if not deſtroyed. All the parts of the body, therefore, partake of this inſenſibility. As the ſkin, in ſome caſes, may be burnt even without feeling,

ing, ſo the ſtomach and inteſtines may be ſtimulated conſiderably without any effect. The motion of the heart and lungs is much enfeebled and interrupted, but continues irregularly till death enſues.

To reſcue the perſon from ſo dangerous a ſtate is extremely difficult. To counteract theſe effects by medicine is leſs likely, both as the power of ſwallowing is loſt, and as, probably, little or no abſorption then takes place. But we ought to endeavour, *1ſt*, to evacuate the poiſon; or elſe, *2dly*, to dilute it, and thereby weaken its action. With a view to the firſt, briſk vomits may be given; but, from the want of irritability of the ſtomach, theſe often will not act, unleſs given early, when they are of great ſervice in caſes of intoxication. A dock-porter who died from this cauſe in the Liverpool Infirmary, Feb. 28. 1780, got down over night, nearly 12 grains of emetic tartar diſſolved, yet it produced little or no effect, though he lived till the next day. Purges are alſo proper, but liable, though in a leſs degree, to the ſame objections. Sharp glyſters may be adminiſtered, and will produce ſome evacuation, but their operation does not extend far enough. Large glyſters, of water only, or of water in which purging ſalts are diſſolved, thrown up with ſome force by a ſyringe, might be of more ſervice.

Oil has been adviſed to be given, to help to evacuate the ſpirit, or to weaken its action.—But when the inactivity of the ſtomach is become ſo great, and the danger ſo preſſing, there ſeems more reaſon to expect ſucceſs, from largely diluting that poiſon, which we in vain attempt to evacuate. When intoxication has been produced by drinking ſtrong liquors, large quantities of water, or weak liquids drank, are found to leſſen it very conſiderably. And though the power of ſwallowing be loſt, yet by means of a pipe (as a catheter) paſſed beyond the glottis, or even down into the ſtomach, water might be introduced, in ſuch quantity as was judged ſufficient to dilute and carry off the liquor in the ſtomach. To the water might probably be added, with advantage, vinegar, or any kind of acid; or purgatives might be diſſolved in it, to facilitate the poiſon's paſſing off by the inteſtines. A pipe of this kind too, would afford the beſt method of introducing ſubſtances into the ſtomach to promote vomiting.

Putting the body into a warm bath, or the legs and feet in warm water, will be of uſe, by leſſening the quantity of blood accumulated in the head, and in the larger veſſels; and ſome of the water may perhaps be abſorbed. With a view to relieve the oppreſſion, bleeding, and opening the temporal artery, are adviſeable. If the pulſe is found to become freer and fuller on loſing ſome blood, more may be taken away. Bliſters may alſo be applied with advantage.

The coldneſs of the extremities, and the evident difficulty with which the circulation is kept up, point out the propriety of aſſiſting it by warmth and friction applied to the ſkin, (as in recovering drowned perſons.) Motion, to prevent ſleep, may probably be ſerviceable in ſuch caſes. Great care ſhould be taken to looſen the neck-band, garters, and every kind of bandage, and that the body ſhould lie in a natural eaſy poſture; on the ſide is perhaps better than on the belly, though that has been recommended, that the ſtomach might the eaſier diſcharge its contents. The breathing ſhould not be obſtructed, nor the neck lie low, or in a bent poſition.

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The annual prize medal for the year 1780, given by the Harveian Society of Edinburgh, for the encouragement of experimental enquiry, was adjudged to Dr Arthur Broughton, now Phyſician in Briſtol, for his eſſay on the coagulable lymph of the blood. After the delivery of the Harveian Oration for laſt year, the ſubject of which was an account of the life and writings of the late Dr Alexander Monro, the prize was publicly preſented Dr Broughton by Dr Charles Webſter, one of the Secretaries to the Society, who, on that occaſion, addreſſed the audience in the following terms :

Gentlemen,

The object of this annual meeting is not only to commemorate the illuſtrious dead, but to confer the rewards of genius on the living. Eſtabliſhments thus friendly to emulation almoſt univerſally prevail. They have given birth to ſome of the moſt brilliant diſcoveries ; the firſt names in philoſophy and the arts have honoured them by their competition ; and from them the happieſt effects have redounded to every department of ſcience.

Of the utility of the preſent inſtitution, another proof is now added to thoſe formerly given by a Stevens and a Darwin. The prize for the queſtion announced laſt year, is adjudged to a gentleman already diſtinguiſhed in the line of experiment. In his review of former teſts between mucous and purulent expectoration, he has diſcovered fallacies hitherto undetected, and pointed out a criterion which appears to be equally ſimple and juſt.

In the preſent eſſay, he has given a clear and conciſe detail of every thing relating to the coagulable lymph of the blood, and a demonſtration of the increaſe of that ſubſtance in inflammatory diſeaſe. He has likewiſe formed ſome probable conjectures of the cauſe of this increaſe, and drawn ſeveral inferences uſeful in the practice of phyſic.

It is, therefore, with much ſatisfaction I now deliver to him this medal, with the works of the illuſtrious Harvey; and I ſincerely wiſh, that future competitors may do equal honour to the inſtitution.

The ſubject of the blood does not appear to be yet exhauſted. Controverſies reſpecting its parts ſtill ſubſiſt. It is a fluid of ſuch importance in the animal œconomy, that every remaining doubt concerning it muſt be matter of regret.

The inquiry, therefore, of this year, is into the nature and ingredients of the ſerum. The ſaline matter which this contains, is ſtill the ſubject of diſpute. Whether its viſcid part be coagulable lymph diſſolved in the ſeroſity, requires demonſtration; and the exiſtence of mucus in it, does not ſeem to be aſcertained. Cloſely connected with this inveſtigation, is the theory of purulence. The experiments of Pringle and Gaber have of late been much controverted: ſo that, in every view, the field for enquiry is conſiderable; and will, I hope, fully repay the labour beſtowed.

No arguments, ſurely, are neceſſary at this day to recommend experimental purſuit. No one is now ignorant, that it is the only road to genuine ſcience; and that nothing is entitled to the denomination of philoſophy, which reſts not on this foundation. Had it not been that taſte for experiment ſo happily introduced by the immortal Bacon, and ſince ſo ſucceſsfully cultivated, we might have ſtill been dragging the car of Ariſtotle, ſtill toiling in the trammels of the ſchools.

Though even random experiment may have ſometimes ſtruck out truths of moment, yet a fund of knowledge, and a collected attention, are certainly the ſureſt guides, not only to bare diſcovery, but to principles of extenſive application. The leaves of trees had been falling unheeded from the beginning of the world: it was the attentive eye and comprehenſive mind of Newton alone that could ſeize this common appearance, and from it explain the conſtitution of the univerſe.

Indeed the very habit of experiment tends to awaken and improve thoſe faculties of the mind, on which ſucceſs moſt generally depends. It begets attention, rivets knowledge, and expands the powers of comprehenſion.

Allow me then, gentlemen, to recommend ſuch purſuits to your zealous regard. They are peculiarly adapted to that quickneſs of perception, which thoſe of your years ſo commonly enjoy. Once begun, they will recommend themſelves to your own feelings. By no other method can you more effectually ſerve the intereſts of humanity and your profeſſion; by none ſo aſſuredly hope for the reputation of a Harvey or a Monro.

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The following extracts are made from the Programme de la Société Hollandoiſe des Sciences, établie à Harlem, for the year 1780.

As ſome philoſophers are of opinion, that the elaſtic fluids which penetrate different bodies in one way or another, are ſo many different ſpecies of air, while others are of an oppoſite opinion; and as it is of importance to determine this point, the Society propoſes the following queſtion.

Quelles ſont les eſpèces vraiment differentes des Fluides, qui paroiſſent être de l'air, auxquelles on a donné les noms "d'air fixe, "air déphlogiſté, air inflammable, air nitreux, "air acide, air alcalin, *&c.*?" Quelles ſont leurs differences reciproques, et en quoi different-ils de l'air atmoſpherique? 2. Chacun de ces eſpèces de Fluides elaſtiques a-t-elle aſſez de rapport avec l'air de l'atmoſphere, pour qu'on la puiſſe croire une eſpèce d'air? 3. Juſqu'à quel point peut-on déterminer "la nature de "l'air atmoſpherique" par les experiences et les obſervations faites avec ces fluides?

Memoirs on this ſubject muſt be tranſmitted to the Society by the firſt of January 1782.

By the ſame period alſo, the Society requires that diſſertations ſhould be tranſmitted to them on the following ſubject.

Quels ſont les objets de l'Hiſtoire Naturelle des Provinces Uniës, au ſujet deſquels on ait lieu de ſe flatter, que des recherches plus exactes pourront procurer quelque utilite à notre Patrie et à la Société humaine?

Anſwers to the following queſtion are expected by the beginning of the year 1784.

Eſt-il, outre le Caffé, le Sucre, le Cacao, et le Cotón, quelques autres Plantes, Arbres ou Végétaux, qui puiſſent être cultivés dans nos Colonies des Indes Occidentales, et qui ſoient propres à ſervir d'aliments, ou d'un uſage utile pour les Manufactures et les Fabriques de ce Païs? Les Eſſais, qu'on a fait, il y a quelques années ſur "l' Indigo," ont prouvé que ſa culture nuit à la Santé des Negres; mais en a-t-on fait, ou pourroit-on en faire ſur d' autres Végétaux, et quels ſont-ils?

* * * *

The following experiments made by Mr John Scott, Chemiſt in Edinburgh, point out a new method of combining ſome metallic ſubſtances with the acetous acid, by means of double elective attraction.

EXPERIMENT I.

To a weak ſolution of mercury in the nitrous acid was added a ſolution of regenerated tartar. A very beautiful pearl coloured precipitate immediately fell to the bottom. This precipitate is a combination of mercury with the acetous acid. This experiment has a very amuſing appearance, as the precipitated mercurial ſalt is exactly like pearls in coarſe powder; which appearance it does not loſe if dried with care.

In this experiment, the nitrous acid leaves the mercury to unite with the fixed alkali in the regenerated tartar; while the acetous acid and mercury left at liberty unite together.

The acetous mercurial ſalt is not ſo diſagreeable to the taſte as the other ſaline preparations of mercury, and probably may be more agreeable to the ſtomach. Mr Scott has often uſed it with ſucceſs in venereal caſes as an alterative. A large proportion of water is required to diſſolve it. This method of combining mercury with the acetous acid, is in Mr Scott's opinion, much more eaſy than that recommended by Mr

Macquer, of firſt diſſolving the mercury in the nitrous acid, then precipitating it with a fixed alkali, and afterwards boiling the precipitate in vinegar. A ſolution of ſugar of lead may be uſed inſtead of regenerated tartar, but for medicinal uſe the latter is preferable.

EXPERIMENT II.

A ſolution of biſmuth in the nitrous acid produced a precipitate nearly reſembling that of mercury, when mixed with a ſolution of regenerated tartar.

EXPERIMENT III.

A ſolution of ſilver, when added either to a ſolution of regenerated tartar or ſugar of lead, produced an appearance of the ſame kind; but with this difference, the lunar ſalt reſembled ſmall needles, while the other two appeared as ſmall ſhining pearl plates.

EXPERIMENT IV.

When a ſolution of tin in aqua fortis was added to a ſolution of regenerated tartar, a large quantity of a ſhining precipitate fell down, which was the tin combined with the acetous acid. This method of making the ſalt of tin with the acetous acid, is much eaſier than the tedious and expenſive proceſs recommended by Dr Lewis in the new Diſpenſatory.

EXPERIMENT V.

When a ſolution of gold was mixed with a ſolution of regenerated tartar, no change was produced or precipitation formed, owing to the ſolar acetous ſalt being very ſoluble in water.

Theſe experiments Mr Scott has been in the practice of ſhewing in his courſe of Pharmacy for ſeveral years paſt.

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On the 23d of September 1780, died Mr John Williamſon, principal Gardener in the Botanical Garden of Edinburgh. Great knowledge of his profeſſion, ſingular diligence, and amiable manners, made his death univerſally regretted, and conſidered as a public loſs.

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Dr Charles Webſter of Edinburgh, has lately been elected a member of the Royal Society of Medicine of Paris.

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The whole Works of the late Dr Alexander Monro, collected in one volume, which we mentioned in our laſt number, is now nearly printed off, and will be publiſhed in a few weeks. This work not only contains corrections and enlargements of former publications in many different places, but alſo ſeveral papers which have never before been publiſhed. Beſides copperplates illuſtrating inſtruments, morbid appearances, *&c.* it will be adorned with an elegantly engraved head of the author, by Mr Baſſire of London, from a painting by Allan Ramſay, Eſq.

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Dr Matthew Dobſon, well known to the learned world by many uſeful and ingenious publications, after having, for the ſpace of near 20 years, practiſed medicine at Liverpool with great reputation and ſucceſs, has removed from thence to the city of Bath.

SECT. IV.

Liſt of New Books.

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A Treatiſe of Midwifery, comprehending the whole management of female complaints, and the treatment of children in early infancy. By Alexander Hamilton, Profeſſor of Midwifery in the Univerſity of Edinburgh, and Member of the Royal College of Surgeons. 8vo. Edinburgh.

Obſervations on the Means of Preſerving the Health of Soldiers, and of conducting Military Hoſpitals; on the Diſeaſes incident to Soldiers in the time of Service; and on the ſame Diſeaſes as they have appeared in London. By Donald Monro, M. D. 2 vols. 8vo. London.

A Treatiſe on the Diſeaſes of the Eye, and their Remedies; to which is prefixed, the Anatomy of the Eye; the Theory of Viſion; and the ſeveral Species of Imperfect Sight. Illuſtrated ſed with Copperplates. By George Chandler, Surgeon. 8vo. London.

Philoſophical Tranſactions of the Royal Society of London. Vol. LXIX. For the year 1779. Part II. 4to. London.

An Eſſay on the Theory and Practice of Medical Electricity. By Tiberius Cavallo, F. R. S. 8vo. London.

A complete Phyſico-Medical and Chirurgical Treatiſe on the Human Eye, and a Demonſtration of Natural Viſion. The whole illuſtrated with a variety of fine Engravings repreſenting the Anatomy of the Eye, and the Inſtruments neceſſary for Chirurgical Diſorders. By Peter Degravers, M. D. *&c.* 4to. London.

Microſcopic Obſervations, or Dr Hook's wonderful Diſcoveries by the Microſcope. Illuſtrated by 33 Copperplates. Folio. London.

Philoſophical Tranſactions of the Royal Society of London. Vol. LXX. For the year 1780. Part I. 4to. London.

Phyſiologia, or the Doctrine of Nature. By Thomas Frewen, M. D. 8vo. London.

A Treatiſe on the Natural Small Pox, with ſome Remarks and Obſervations on Inoculation. By Charles Roe, Member of the Incorporation of Surgeons. 8vo. London.

An Eſſay on the Gonorrhœa, with ſome Obſervations on the uſe of Opium in that Diſeaſe. By William Thomas, Surgeon. 8vo. London.

Eſſays on Phyſiological Subjects. By J. Elliot, Apothecary. 8vo. London.

Modern Improvements in the Practice of Phyſic and Surgery. By Henry Manning, M. D. 2 vols. 8vo. London.

Heads of Lectures on the Theory and Practice of Medicine. By Andrew Duncan, M. D. Fellow of the Royal College of Phyſicians, Edinburgh. The ſecond edition. 12mo. Edinburgh.

Flore Françoiſe, ou Deſcription ſuccincte de toutes les Plantes qui croiſſent naturellement en France, diſpoſée ſelon une nouvelle methode d'analyſe. Par M. le Chevalier de la Marck. 8vo. 3 vols. Paris.

Caroli von Bochaute in Alma Univerſitate Lovanienſi praxeos Medicæ, nec non Chemiæ Profeſſoris,

feſſoris, Diſſertatio Phyſiologico-chemica de Bile. 8vo. Lovani.

Memoire ſur la meilleure maniere de conſtruire les Alambics et Fourneaux propres à la Diſtillation des Vins, pour en tirer les Eaux-de-vie. Par M. Baumé du College de Pharmacie de Paris, *&c.* 8vo. Paris.

Eſſais ſur les Eaux Minerales et Medicinales de la ville de Bourbon-l'Archambault. Par M. Faye, Medecin-Intendant de ces Eaux, *&c.* 8vo. Paris.

Nouvelle Methode pour extraire la Pierre de la Veſſie Urinaire par deſſus le Pubis, qu'on nomme vulgairement le haut appariel dans l'un et l'autre ſexe, ſans le ſecours d'aucun fluide retenu ni force de la Veſſie. 12mo. Bruxelles.

Diſcours ſur la veritable gloire du Chirurgien, prononcé aux Ecoles de Mèdecine, pour l'ouverture ſolemnelle des Ecoles de Chirurgie, le 29. Novembre 1778. Par M. Etienne Groſſin du Haume, Profeſſeur actual de Chirurgie Françoiſe et Medecin de l'Hotel-Dieu.

Specimen Experimentorum Naturalium, quæ ſingulis annis in illuſtri Piſano Lyceo exhibere ſolet Carolous Alphonſus Guadagnius, Phiſ. &

Med. Doct. & in eodem Lyceo Phiſ. Experim. Prof. Ord. 4to. Piſis.

Anatomicarum Annotationum, Liber primus, de Nervorum Gangliis et Plexubus. Auctore Antonio Scarpa in Mutinenſi Archigymnaſio Anatomes Prof. 4to. Mutinæ.

Collezione Iſtorica di caſi Chirurgici metodicamente diſpoſti, e con note illuſtrati da Guiſeppe Cavallini di Cevoli, Lettore ed Iſtoriografo nel Reg. Spedale di S. M. nuova di Firenze. 8. 3 tom. Firenze.

Oſſervazioni Chirurgichi di Antonio Romiti della Citta di Prato, Maeſtro di Chirurgia, nel Regio Arciſpedale di S. M. N. 4to. Firenze.

Della Peſte di Conſtantinopoli del 1778. Oſſervazioni ſulla Medeſima e rifleſſioni dell' Autore. 8. Yverdun.

Memoria ſopra il ſale ſedativo naturale della Toſcana, e del Borace con quello ſi compone. ſcoperto da Uberto Franceſco Hoefer, Membro dell 'Academia delle Scienze di Siena, *&c.* 8vo. Firenze.

Dei Terremoti dell 'Anno 1779. Opuſcoli di Michele Auguſti Monaco. 8. Bologna.

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